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Annually £5 by post Single copies, Two shillings.

Registered at the G.P.O. as a newspaper. Entered as second-class matter in U.S.A.

Editor: B. W. C. Cooke, Assoc. Inst. T.

Vol. 109] FRIDAY, DECEMBER 12, 1958 [No. 24

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### Dividends from Modernisation

THE confidence of the British Transport Commission that investment in the British Railways modernisation plan "will in the end pay a handsome dividend" was emphasised by Sir Brian Robertson, Chairman of the Commission, at Yarmouth last Friday. He was addressing the Great Yarmouth Chamber of Commerce during one of his periodical visits to the provinces to meet representatives of trade and industry and to inspect the working of nationalised transport undertakings. His speech is reported elsewhere in this issue. He rightly drew the attention of his audience to the eminence in a variety of fields in commerce and industry of his fellow Members of the Commission as grounds for faith in their judgment, and their belief that the advantages of the improved equipment and methods resulting from modernisation were "such as to leave no doubt that the railways can be made to pay if they concentrate on the jobs for which they are best suited." He referred to the statutory requirement that the railways must be made to pay, and the intention of the Government, in lending money for modernisation, that they must win their own living in competition with other forms of transport. Working "to the rules of the game as set by the Government of this country," would mean, as the Commission had always realised, that railway service would have to be much less extensive than that to which people had long been accustomed, with far less room for cross-subsidation of poor paying services by more profitable ones, and far less chance of the railways solving the problem of rural transport, "which . . . . is a job for much smaller carrying units, such as the buses." This emphasis on the shrinkage of railway facilities may cause some misgivings. There may be justification for closing a few unremunerative lines and stations. References to a "much less extensive" railway system and to "far less room" for subsidising unremunerative services might suggest that the B.T.C. and managements of British Railways were concentrating on providing only remunerative services over trunk lines. This is far from being the case yet, and the railways' moral obligations as public carriers must be considered. The spreading of the load of overhead charges on to branches, which may also be feeders, should be borne in mind. Too great an emphasis on cutting out unremunerative services during a time of trade recession might well be regretted when there is a recovery in the traffic offering. It may prove as unwise to legislate for a perpetual slump as for an everlasting boon.

### Railway Pay Inquiry

NO statement yet has been released regarding the first meeting of the committee recently set up to make an independent inquiry into railway pay. This meeting, which took place on December 3, was followed on Monday by a second session, likely to be the precursor of frequent meetings covering a period of several months. Thus, this important review wisely will be conducted carefully and with an absence of haste. Hurried findings could prejudice the confidence now possessed in the inquiry by both Commission and unions: incompletely visualised consequences of too facile a solution to complex and deeply-rooted problems could effect untold harm and mar the excellent relations so carefully nurtured over recent months. The inquiry represents not only a new approach to the delicate matter of relations between management and men: it revives the old technique of informal and civilised deliberation. The pattern of all sessions is likely to follow that of the first meeting. The committee meets in private: it then confers with representatives of the parties concerned. Freedom from constraint in the presence of conflicting interests thus can be maintained, while progressive comment from the two sides can prove useful in fostering an outcome satisfactory to all.

### International Railway Links in Africa

HOW far the African rulers of independent countries have considered development of Africa by an international system of railways, is problematical. There has been much talk of unions, alliances, and mutual help. The only schemes for international lines so far known have been conceived under European rule. The chief of these are the Trans-Saharan Railway, which has become international, strictly speaking, only recently; the various lines on the "Cape" (3-ft. 6-in.) gauge linking the territories of Southern and Central Africa; and the projected west-to-east line between Nigeria and the Sudan . The railways in many territories still consist mainly of a line between a port and a hinterland. Their gauge, rolling stock, and equipment reflect the choices of the present or former paramount European power.

### Railways' Part in Economic Development

CECIL RHODES' dream of a Cape-to-Cairo railway is far from realisation, largely because there is at present little trade between some contiguous territories. The Egyptian Republic Railways for instance are unlikely to build a line south from Shellal, above the Aswan Dam, to link up with the Sudan Railways at Wadi Halfa, unless

the new dam revolutionises the economies of Upper Egypt and the Sudan. Nevertheless railways can play a dominant part in developing Africa. In most parts of that continent they are by far the most efficient and economic form of inland transport. Their usefulness in international transport already has been proved, as is shown in the fruitful associations between the Rhodesia and Mozambique Railways for traffic through Indian Ocean ports and between the Rhodesia, Bas Congo-Katanga, and Benguela Railways in affording a convenient access to the Belgian Congo and Rhodesia via the Atlantic port of Lobito Bay. The uniform 3 ft. 6 in. gauge has helped in these cases. There is scope for development of this kind in other parts of Africa.

## Closure of M.G.N. Line

THE Midland & Great Northern Line of the Eastern Region of British Railways is to be closed from March 1, 1959, for passenger traffic, except for the Melton Constable to Cromer branch, and for goods traffic except for certain short sections. The Central Transport Consultative Committee recently confirmed the recommendations of the Transport Users' Consultative Committees for the East Anglian and East Midland Areas. The plans of the Eastern Region for revised passenger, including bus, and goods services are detailed elsewhere in this issue. Editorial comment on the closing was published in our issue of June 20, 1958. Mr. H. C. Johnson, General Manager of the Eastern Region, states that at the hearing before the Central Transport Consultative Committee he gave an assurance that the British Transport Commission had no intention of abandoning the area of the M.G.N. Line. Traders and public, he emphasises, will continue to be well served. The extended cartage services for freight and parcels, in particular, will cater for old and new customers who wish to consign traffic by rail. The total annual saving is likely to be about £1,000,000.

## All-Weather Service

ADDITIONAL carrying capacity on British Railways, which will help if goods traffic is slowed down by hard winter weather, is bound to exist in view of the falling-off in goods traffic. The Winter Transport Central Joint Conference, as reported last week, was told by Mr. J. W. Watkins, Member of the British Transport Commission, that the Commission was well able to deal with any traffic likely to be offered this winter, and could take more. The Conference is an advisory body, which includes representatives of important groups of railway users, set up to ensure co-operation between the nationalised transport undertaking and traders and manufacturers and other transport users to ensure co-operative action to deal with difficulties in moving traffic caused by severe weather. Apart from this, it is most important that the quality of British Railways goods services be maintained throughout the winter, in all weathers.

## Wayside Stations Closed

THE closure of more wayside stations on the main line of the Great Northern Line of British Railways, Eastern Region, recorded elsewhere in this issue, is denuding the East Coast main line of passenger stations between the larger junctions. We commented recently on the number of stations which had been closed between York and Newcastle. The policy of closing does not seem to be pursued so drastically as it has been in the Scottish Region, where a number of stations on the Glasgow-Aberdeen main line of the former Caledonian Railway were closed simultaneously in the summer of 1956. The necessity to increase the number of fast passenger and goods trains over the main line and the small receipts from the stations concerned mean that main-line stopping trains are an expensive nuisance. On the East Coast and other busy main lines, moreover, there are no station level crossings to justify keeping the stations open. But it is undesirable that railway facilities should be withdrawn if that can be avoided, for railways are a public service. One may ask whether wayside stations on main lines could be served by fast diesel railcars which would not get in the way of other fast traffic.

## More Comfort in Melbourne Suburban Trains

ALTERATION in a passenger class system causes difficulties in determining the degree of comfort to be provided under the new arrangement, and in converting existing stock to new standards. This was a major problem when most railways on the Continent of Europe reduced the number of classes to two in 1956. The Indian railways seem to be experiencing rather less difficulty in readjusting their passenger classes. Introduction of one-class travel on the Melbourne electric suburban services of the Victorian Railways has necessitated reconditioning of the former second class cars to provide a uniform standard of comfort. The wooden slat seats now covered with horsehair cushions are being upholstered with a sponge rubber seat and back and covered with green plastic material. This is a useful improvement in a service which competes with the private motorcar, though the older stock, much of which still has a long useful life, cannot compare with the new seven-car sets, known as the "Harris" trains, recently placed in service.

## Travelling Crane for Electrified Lines

THE effective use of permanent way cranes with the standard design jib will be severely restricted on lines electrified at 25 kV., 50 cycles, a.c. For safety reasons there must be a minimum 11-in. air gap between the high voltage wires and the rolling stock. To conform to the restricted loading gauge a diesel-electric permanent way travelling crane has been designed by Taylor & Hubbard Limited, in collaboration with British Railways, as a prototype for track on electrified lines. It has a cranked jib which has a telescopic upper section that can be extended or retracted under load, and will be capable of lifting 6½ ton at 18-ft. radius, with the jib raised, diminishing to 1 ton at 40 ft. radius with the jib fully extended horizontally. With the jib in the horizontal position, the crane will be able to work under overhead equipment which allows a minimum of 14 ft. above rail level. It will be able to travel at up to 5 m.p.h. under its own power, and will be equipped for speeds up to 60 m.p.h. when being hauled in train formation.

## Comfort with High Speed in Japan

ULTRA short-wave telephone communication between a booth in a corner of the buffet car and the public exchange is a feature of the Japanese National Railways luxuriously appointed multiple-unit electric sets working the "Kodama" ("Echo") express, introduced recently between Tokyo and Osaka. Three sets have been built by three different firms, Kawasaki Sharyo, Kinki Sharyo, and Kisha Seizo. Each consists of two identical four-car units. Two six-car units may be used later on. The 344-mile journey is performed in 6 hr. 50 min., a remarkable feat on the 3-ft. 6-in. gauge. The second class seats are equipped with earphones for receiving a choice between two radio programmes. This amenity has been provided on railways in several countries for a good many years, but has sometimes been withdrawn as not popular enough to justify the expense. Measures to increase comfort include extensive use of rubber to minimise noise, and double-glazing of all windows.

## Programme Machines at Watford

THE introduction of programme machines at the Metropolitan Line terminus at Watford where power equipment, to the latest London Transport standards, has replaced mechanical signalling, represents the first use of them on a surface section. Although first applied a comparatively short time ago this form of automatic operation of traffic where points are involved has well proved itself. As will be seen in the illustrated article in this

issue, it includes at Watford the automatic shunting of locomotives besides the signalling of multiple-unit stock, which, of course, is simpler. The work follows that undertaken to bring the control of the junction between the branch and the main line under the signalman at Rickmansworth, who is now able also, should some circumstance necessitate it, to deal with the movements at the terminus by route-setting push-buttons.

### The Dagenham Collision

THE collision in thick fog at Dagenham on January 30, 1958, awakened particular interest as the line was equipped with warning A.T.C. semaphore signalling and interlocking block was in operation and the situation was complicated by the closing of a signalbox shortly before the mishap. As will be seen from our summary in this issue of Brigadier C. A. Langley's report, the arrangements offered the possibility of a false " line clear " block indication appearing during switching out, if certain instructions were not faithfully observed, but he came to the conclusion that this had not taken place and that the colliding train had passed a starting signal at danger, not very difficult to do in the bad visibility obtaining. The driver thereafter received some clear A.T.C. indications which of course supported his belief that it was right for him to proceed. The rules allowed his train to be sent forward to the signal, but Brigadier Langley considers it advisable to modify them to reduce the risk of such a mistake being made in future.

### Switching Out Difficulties

SWITCHING out always has presented difficulties, which became added to when apparatus such as the Sykes or other forms of interlocking block were applied. Only relatively complicated equipment could eliminate them entirely. Switching out with a train in section was permitted by some regulations, as was the case at Dagenham, adopted to meet the difficulty of finding a time when all sections were clear, very real at some locations. By using special equipment some lines, such as the former G.E.R. with Sykes lock-and-block, switched through the up and down block circuits and the bell circuit entirely independently. The signals were not replaced behind the last train in each direction, the relevant block circuit being at once switched through instead, then the bell circuit last of all. With one direction only cut out some bell signals had of course to be passed on. Generally, however, simpler apparatus, supported by very strict rules, has been preferred and very few accidents have been attributed to mistakes which may have been made when switching out.

### Diesel-hydraulic Shunters for Industrial Lines

SIMPLICITY of control is a feature of the diesel-hydraulic shunting locomotives recently completed by the Yorkshire Engine Co. Ltd. for service in industrial plants. Four-coupled and six-coupled versions are being built. Both are powered by a Rolls-Royce normally-aspirated engine of 170 h.p. at 1,800 r.p.m., flexibly mounted at an inclination to the horizontal and driving through a three-stage torque converter which makes a change-speed gear unnecessary. The final drive double-reduction gearbox is axle-hung and this contains an air-operated reversing gear. Maximum tractive effort is 16,400 lb. These locomotives are designed to be adapted to meet the requirements of light industry in all parts of the world, on any gauge between 3 ft. and 5 ft. 6 in. The manufacturers also have built the first of three 400-h.p. diesel-electric locomotives ordered by the African Manganese Co. Ltd. for work on a 3-ft. 6-in. railway under construction in British Guiana to serve the company's mines. Each will have twin Rolls-Royce 202-h.p. engines, B.T.H. generators, and Bo-Bo wheel arrangement. They will be used for hauling 370-ton loads up gradients of up to 1 in 100.

## Wages in the Transport Industry

FEW more comprehensive brief surveys of the history of wages in the transport industry, and more particularly railways and buses and trams, have been made than that given last Monday by Mr. E. R. L. Fitzpayne, General Manager of Glasgow Corporation Transport, in the Fourteenth Henry Spurrier Memorial Lecture to the Institute of Transport. As to railway wages, he recounts lucidly the sequences in the past 10 years of wage demands, refusals, threats of intervention or pressure by the Government of the day in favour of wage increases, and the granting of increases, repeated in a slightly varying pattern. His résumé should be read to put events in true perspective. and as a reminder of how mistakes can be repeated. His survey of industrial relations on the railways, and later, public passenger road transport undertakings, up to 1947 also is admirably clear.

In recording the postwar history of wage negotiations with the Government White Papers, and what he terms " exhortations and abortive actions," Mr. Fitzpayne states that he almost despairs of finding a solution to the problem of wages and inflation. He finds some justification for pride in the Municipal Transport National Council, both sides of which have shown a sense of dignified responsibility. Neither of the major political parties, he states, is prepared to accept the ultimate implications of its philosophy as to whether there should be controls in industry. The usual British idea of compromise is one cause of postwar inflation. If there is insistence on controls to establish full employment and a stable price level, then there can be no free collective bargaining and wages also must be controlled. The reply to those who suggest that this is a totalitarian principle, he points out, is the example of Holland where a form of wage control has been in operation for some time.

If price levels are to fluctuate in a free market and trade unions to be free to use their bargaining strength for increased wages, then full employment cannot be attained. The report of the Cohen Committee, appointed in 1957 to review and comment on changes in prices, productivity, wages, and profits, states that " no one should be surprised or shocked if it proves necessary that the percentage of unemployed should go somewhat further. In our opinion it is impossible that a free and flexible economic system can work efficiently without a perceptible (though emphatically not a catastrophic) margin of unemployment of this kind." Hitherto, as Mr. Fitzpayne observes, the standards of skill and education in many of these unemployed have tended to be low, so that services which demand reasonably high standards, such as public transport, have continued to be understaffed. With a continuance of the recession in industry, and with the inevitable redundancy on the railways, this cannot continue.

## Simplifying Express Train Working

THE necessity to provide faster and more frequent medium-distance express services, at regular intervals where possible, and changes in the habits of the travelling public are allowing simplification in passenger train working. This is apparent in several timetables introduced recently, and notably those of the Great Eastern Line of the Eastern Region of British Railways to take effect from January 5, 1959.

Apart from the regular-interval sequences, which dispense with the need for reference to timetables, the main simplification is that in the composition of trains. The tendency is to operate a complete set between terminal points and avoid through coaches. Connecting services are run from and to convenient platforms at junctions, affording cross-platform interchange. The advantages are time saved, and the risk of delay lessened, by not having to shunt through vehicles, improved vehicle user, and an increase in seating capacity, in that the main train set need not include the amount of van space which was necessary in each through portion.

Rapid and frequent interchange at junctions has been facilitated by the modern habit of travelling with less

personal baggage than was done 50 years ago, when the number of through vehicles in Britain was at its highest. Because of the time necessary for attaching and detaching, journeys in these vehicles, especially cross-country, tended to be tedious, and time often was lost at junctions, more particularly in attaching. It is important that changing should involve, as far as possible, no crossing to another platform by subway or footbridge. The latter is a cause of much hostile criticism by passengers. On the other hand there is often a case for one or two through coach workings daily over long distances. The result may be a train with several through portions, such as the "Atlantic Coast Express" of the Southern, and the "Cornish Riviera" of the Western Regions. It would be out of the question to run several such complicated formations daily over the same line. In the case of the new Great Eastern Line services there is only one through working between Liverpool Street, Cromer and Sheringham daily.

Simplification is associated with uniformity. Knowledge that there is a service at regular intervals spreads the load of travellers. Uniformity of facilities also can be useful. It is helpful to be able to rely on all trains at certain intervals being provided with refreshment facilities, if possible in the same position in the train, and on their including first-class accommodation in the same part of the set. In such cases it is better to not name the train. Destination boards are a problem. From the commercial point of view, names should be kept for the best long-distance expresses, perhaps only for the best pair of trains of the day. With the medium-distance series of expresses, regular-interval departures, with uniformity of composition and refreshment facilities, combined with short stops and easy changes to and from connecting services, will attract traffic. Quite different considerations apply to travel over longer distances.

## Holiday Traffic in Britain in 1958

IT is hard to reconcile the preliminary results of the survey by the British Travel & Holidays Association of the 1958 holiday season in resorts in Britain, with British Railways passenger traffic. According to the survey most resorts had a slightly better holiday season this year than in 1957. Railway passenger traffic on the whole was disappointing. This is attributed largely to the impact in the Midlands and North of the recession in industry, which is believed to have caused many people to have travelled by train to resorts nearer home than those to which they could otherwise have travelled, or even not to have slept away at all. In the latter case they might have gone on day excursions by train. The weather, though not on the whole as bad as in 1957, adversely affected day trips by all forms of transport. A nation-wide Gallup poll survey organised by the Association showed that 54 per cent of British people had a holiday away from home in 1958, the highest figure in all sample surveys carried out annually since 1949. The poll also showed that 14 per cent went abroad during the 1958 holiday season, representing a large increase over the last four years. The Association states that there are signs that the growth of holiday travel from this country to the Continent is slowing down. The numbers travelling abroad to the Continent this year have been only 4 per cent higher than in 1957.

This does not indicate what trends of traffic may be expected by British Railways shipping services to the Continent. Increases in the numbers of visitors to Britain from the Continent also must be borne in mind. The high cost of building and operating ships aggravates the task of planning for the future. These factors, with the great variation in passenger traffic between the holiday and off-season, may involve further suspension or curtailment of shipping services during the off-season as already exemplified in the Newhaven-Dieppe and Southampton-Havre services during the present winter. On the other hand the vital importance as links with the Continent of Europe of the surface routes operated by British Railways and associated undertakings is increased in winter because of their reliability in bad weather compared with air services. Another factor to be considered in planning shipping services is the Channel Tunnel, construction of which is under active consideration, though by no means entirely for passenger traffic.

The most significant change is reported to be the increase in travel to Wales. In 1955, 7 per cent of all holidaymakers went to Wales, but this rose to 10 per cent this year, ascribed to the success of the Empire Games and the Festival of Wales as tourist attractions. How far this affected rail travel is not stated in the B.T.H.A. report. Apart from North Wales, most Welsh holiday resorts are small, and provision of train services complicated by much single-line working and other adverse factors resulting from railway geography. It is hard to see how holiday services to Wales from London and other large cities can be improved. Scotland attracted 10 per cent of British holidaymakers this year. It does not seem that any variation in the basic pattern of Anglo-Scottish train services is called for. Sleeping cars are costly to build, and the concentration of traffic on a few weeks of the year adds to the difficulty of providing sleeping accommodation. The "car-sleeper" trains to Scotland, however, are a useful contribution to railway revenue, as are the "Starlight Specials" and similar trains commanding greatly reduced fares and running only on certain nights during the holiday season.

More than two-thirds of British holidaymakers travelled in July and August. A few more travelled in May and June, 20 per cent, compared with 18 per cent in May and June in the two previous years. Results show that this pattern remains almost identical. As the total volume of holiday travel is increasing, there is stated to be a marked rise in the number of off-season travellers, with a trend towards holidays in April and May. It is to be hoped that this tendency will increase. Travel at weekends in July and August is mainly dictated by the booking of hotel and other accommodation. Apart from the actual movement of numbers, it is difficult for any railway to provide punctual and comfortable travel when this is largely confined to a few summer Saturdays.

On the commercial side, a great deal has been and is being done by the several Regions of British Railways to promote traffic by issue of reduced rate tickets and other facilities. Whether more car-sleeper trains can be introduced is problematical. There must be constant alertness to note, and if possible to anticipate, changes in the requirements of holidaymakers.

## New C.N.R. Lines in Northern Quebec

IN Northern Quebec, 300 miles practically due north of Montreal, is a 300-sq. mile mining area where valuable base-metal ore deposits are already being worked. The ores are copper, zinc, gold and cobalt. In November, 1957, a new 161-mile railway was completed from Beattyville—previously the terminus of a 39-mile branch line from Barraute on the C.N.R. Northern Transcontinental route—to Chibougamau on the north-western shore of the lake of that name and the centre of the mining area. This line provides a direct rail link between the Chibougamau mines and mills and the smelter at Noranda, 250 miles to the west.

Another section of line about 133 miles in length is also under construction from St. Felicien, west of Lake St. John, to Chibougamau. St. Felicien has a station on the C.N.R. branch line to Dolbeau from Riviere a Pierre junction near Hervey on the Northern Transcontinental Line to Winnipeg and the Pacific Coast. When finished this current construction will complete a wide loop about 450 miles in length beginning at Hervey and ending at Barraute. The Beattyville-Chibougamau-St. Felicien construction works are described in an article beginning on another page, where there is also a map showing the lines referred to above. The branch line from Hervey and Riviere a Pierre junctions to St. Felicien and Dolbeau, with a fork from Chambord to Chicoutimi on the Saguenoy River, has opened up much valuable country and is well established. The Barraute-Beattyville branch, com-

pleted ten years ago, as well as providing a jumping-off point for the subsequent construction to Chibougamau, also taps extensive pulping-lumber forests and serves the settlements in the 700-sq. mile Bell River Valley area.

The two new sections of railway will also open up forests containing upwards of 30,000,000 cords of pulpwood capable of sustained annual yields of about 617,000 cords. The estimated ore deposits in the Chibougamau area exceed 10,000,000 tons. At least three mining companies are already working them; one has been mining and milling copper there since December, 1953, and turning out about 800 tons of ore a day. Some of its ore bodies are among the highest-grade copper deposits in Canada, and some of the deposits carry appreciable quantities of gold.

Another mining concern is milling about 1,700 tons of ore daily and is extending its operations. The ore deposits of a third company are gold-copper rather than copper-gold, and there are scores of other properties in the area with bright prospects which are being developed. Though the township of Chibougamau is still in its infancy with a population of under 4,000, it is growing and developing very rapidly; the whole area served by the new railway is expected to have a population of some 50,000 within the next 15 years.

Until the railway from Beattyville was opened, the Chibougamau concentrates had to be sent by road to St. Felicien, there to be railed all the way round via Hervey to the Noranda smelter. The new railway effects the saving of 150-mile road- and 250-mile rail-haulage on this traffic.

The building of nearly 300 miles of new railway, some of it in very rugged country and involving considerable bridging, is rare in the English-speaking world today. Technically the new line is a remarkable achievement by Canadian National Railways engineers.

## Experience with the "Deltic" Locomotive

EXPERIENCE in extensive running trials in the London Midland Region of British Railways with the prototype 3,300-h.p. "Deltic" diesel-electric locomotive built in 1955, and the implications, are discussed in a paper read earlier this week by Mr. C. M. Cock, General Manager, Traction, the English Electric Co. Ltd., to a joint meeting of the Institutions of Electrical and Mechanical Engineers. The first of the 13 main sections of the paper is devoted to the basic requirements which influenced the creation of the "Deltic," the most powerful single-unit diesel locomotive yet built. The original conception has resulted in a successful attempt to overcome the limitations on train operation imposed by the track in the form of service delays, steep gradients and, in some countries, poor standards of ballast, and so on. To make available more power for increased acceleration with a heavy fast passenger train without increasing the axleload, a new approach was necessary to the problem of rotational speeds, so as to achieve the necessary improvement in locomotive power/weight ratios. As is pointed out in the paper, for every ton of engine weight saved, an equivalent saving of weight in the mechanical parts can be effected and so, with unit construction of underframe and superstructure, and the use of light alloys, it has been possible to achieve a specific locomotive weight of only 72 lb./h.p.

The two 1,650-b.h.p. Napier "Deltic" 18-cylinder opposed piston two-stroke engines, of exceptionally compact design and great inherent rigidity, are stated to have been entirely satisfactory in operation. Although their maximum running speed is 1,500 r.p.m., that is 75 per cent. higher than most other diesel engines of British Railways main-line locomotives, this is not unreasonable when it is considered that their original designed speed for short duration marine ratings was 2,000 r.p.m. Mr. Cock states that improvements arising from service experience it may be possible for the running period allowed between piston ring replacements to be increased from the present 5,000 hr. to 10,000 hr.

In a technical description he discusses in detail the control gear and warning devices. The necessity for automatic electrical change-over devices to allow for either deliberate shutting down or failure of one engine and its main and auxiliary generators without interrupting the progress of the train must be unique in locomotive practice. That the locomotive should be required to run efficiently with all six traction motors on half voltage as a normal feature, with one engine shut down for more economic work on some services, is a useful development which was not in the original concept. The service reliability of the additional control gear or its effect on the already high total cost are not discussed in the paper, but it is stated that telephone-type relays employed originally on the automatic wheel slip prevention device had to be replaced by more robust current-operated units.

Typical of the type of development work which is only made possible by running experimental designs under service conditions, is the overcoming of difficulties with the "Deltic" locomotive train heating boiler. Originally, air was drawn from outside the locomotive, but the air intake, close to the engine air intake, was starved at times due to the engine taking most of the available air. A new intake was provided for the boiler to draw air from inside the engine room. As this arrangement was not entirely satisfactory either, a reversion was made to the original system by ducting boiler combustion air from two new louvres fitted in the locomotive roof, well clear of the engine air intakes.

There is discussion of certain relatively minor mechanical or structural defects which have arisen during the 200,000 miles of service and details are given of the permanent remedies evolved. Some defects are caused by fatigue arising possibly from transmitted high-frequency vibration which was previously uncommon in locomotive design experience. Although several novel schemes have been tried in the "Deltic" locomotive, on no occasion has it failed completely on the open line. It is made clear that the reserve of power has been used to good effect in making up lost time due to permanent way slacks, signal checks and other causes.

In short, Mr. Cock states that the concept of installing sufficient power in a single-unit diesel locomotive, complying with restrictive axle loads and load gauges, to work any trains operating on British Railways, has been confirmed. One can look forward to improved train timings when the production "Deltic" locomotives' capabilities are fully utilised in future operations.

## Reorganised Great Eastern Line Timetable

APART from the Southern Region electric services between London and the South Coast, the new timetable to operate from January 5 over the Colchester main line and branches of the Great Eastern Line, British Railways, Eastern Region, represents the most completely integrated system of even-interval services yet introduced over so large an area. The plans for the Great Eastern Colchester main line express passenger service are based mainly on working by the five English Electric 2,000-h.p. diesel-electric locomotives and 20 "Britannia" class Pacifics. The latter are to be used interchangeably on London-Norwich, London-Yarmouth and London-Clacton trains. Stopping main-line and branch services will be worked entirely by diesel-mechanical multiple-unit sets, the latter mostly in two-car units.

While no higher speeds than the fastest at present in force are being scheduled, the running times of all expresses are being levelled up to the "Britannia" standard of timing. This means a considerably higher average speed of all services than before. By a more intensive use of rolling stock a much more ample service will be offered in every direction. Between Liverpool Street and Norwich, for example, standard nine-coach sets will be used, and as, with one exception, these trains will not run beyond Norwich, four sets will be able to make two return journeys between London and Norwich daily, a total of 460 miles; the nine sets together will average 332 miles a day.

The general pattern of the London-Norwich service via

Colchester will be departure from Liverpool Street at 30 min. past each hour from 8.30 a.m. to 8.30 p.m. without exception, and similarly from Norwich to Liverpool Street hourly from 6.45 a.m. to 6.45 p.m. As regards departure times this corresponds largely with the present service, with some new trains. Certain trains also are considerably accelerated, such as the 10.30 and 11.30 a.m., 12.30 and 8.30 p.m., by 11, 19, 17 and 33 min. respectively. The 2-hr. trains run at 3 hr. intervals. They are the 9.30 a.m., 12.30, 3.30, and 6.30 p.m. down and 8.45, 11.45 a.m., 2.45 and 5.45 p.m. up. The expresses leaving in both directions at the other hours call at Chelmsford, Witham, Colchester, Manningtree, Ipswich, Stowmarket and Diss, with a few exceptions. Most of these trains are allowed 2½ hr. down and 2 hr. 35 min. up.

The only through working between Liverpool Street, Cromer and Sheringham in future will be the 3.30 p.m. down "Broadsman" and the corresponding up express at 7.38 a.m. from Sheringham and 7.54 a.m. from Cromer Beach; the latter, for the first time since 1914, will give a faster journey time from Cromer to London (2 hr. 51 min.) than the 2 hr. 55 min. of the "Norfolk Coast Express," of the former G.E.R., which in summer used to run non-stop over the 130¼ miles from North Walsham to Liverpool Street.

All the other Cromer and Sheringham connections will be by diesel trains from and to Norwich, which give journey times between Liverpool Street and Cromer of between 2 hr. 55 min. and 3 hr. 8 min. Connecting at Ipswich with each of the 2-hr. Norwich trains will be diesel trains between Bury St. Edmunds, Ipswich and Harwich; these will provide four 2-hr. services in each direction between Bury and London, 18 min. faster than the quickest existing service, and roughly 30 min. faster than the average of the present best trains to and from Liverpool Street. Also connecting with the 2-hr. trains at Ipswich will be diesel stopping trains between Chelmsford and Norwich. These will do the roadside work which formerly required steam services, and also will provide fast connections between intermediate stations and both Norwich and Liverpool Street, with a change at Ipswich.

Over the East Suffolk line there will be a through train from Liverpool Street to Yarmouth and Lowestoft every 3 hr., at 12.38, 3.38 and 6.38 p.m., calling at Chelmsford, Witham, Colchester, Ipswich, Woodbridge, Saxmundham, Halesworth, Beccles, and (the Lowestoft portions) Oulton Broad, taking 2 hr. 50 min. to Yarmouth and 4 min. longer to Lowestoft. Corresponding up workings will be at 8.35 and 11.35 a.m. and 2.35 p.m. from Yarmouth (2 min. earlier from Lowestoft), with the addition of a 7.26 a.m. from Yarmouth. At all the hours between the through workings from London a diesel train will leave Ipswich for the East Suffolk line at 15 min. past the hr., connecting with one of the hourly Liverpool Street-Norwich trains. These trains will call at Woodbridge, Saxmundham, Halesworth, Beccles and Oulton Broad to Lowestoft, where they will reverse and continue to Gorleston-on-Sea and Yarmouth, so both providing a fast 18-min. service between Lowestoft and Yarmouth, and also giving Gorleston a regular through service to and from Ipswich and fast connections to and from London never previously enjoyed. The 11.15 a.m., 2.15, 5.29 and 8.15 p.m. diesels from Ipswich, following the through London trains, will be all stations to Yarmouth direct, with diesel connections from Beccles to Lowestoft and all stations to Gorleston and Yarmouth. There will be additional local diesel workings between Beccles and Yarmouth and Lowestoft, Gorleston and Yarmouth.

The Ipswich-Felixstowe service will be diesel and hourly from Felixstowe Town at each even hr.; each up train will connect with a Norwich-Liverpool Street express, and where the connection is with a 2-hr. train, the time from Felixstowe to Liverpool Street will be 1¾ hr.; in other cases it will be 2 hr. 20 min. In the opposite direction a longer wait at Ipswich is unavoidable, and there will be an hourly service from London in 2 hr. 23 min. The Ipswich-Bury-Cambridge services and those between Colchester and Cambridge, both via Sudbury and via Colne Valley line, also will be diesel-worked. The Liverpool Street - Clacton-on-Sea service is not greatly altered from that now in force, but the off-peak trains are accelerated to 94 min. down and 98 min. up.

The reorganised timetable gives a service between Liverpool Street and Norwich of which the combined average speed of the 12 fastest trains—six down and six up—is appreciably higher than the average over either route between London and Birmingham, and which equals that of the Western Region between Paddington and Bristol. Of services between London and towns at approximately the same distance, only that between St. Pancras and Nottingham shows a slightly higher average speed. The frequency of the fastest and the semi-fast trains combined is appreciably greater between London and Norwich, however, than over any other of the routes named. Intermediate towns benefit in equal measure. Chelmsford, for example, 29¼ miles from London, will now have 29 trains daily to and from Liverpool Street in 36 or 37 min.; and the London-Colchester service also will be much improved.

## Publications Received

*The Railroad Passenger Car. An Illustrated History of the First Hundred Years, with Accounts by Contemporary Passengers.* By August Mencken. Baltimore, U.S.A.; Johns Hopkins University Press. London: Oxford University Press, Amen House, Warwick Square, E.C.4. 9¼ in. × 7¾ in. 209 pp. Price 40s.—The book, of considerable documentary interest, is based on material gathered from the U.S. Patent Office, the books, magazines, and newspaper articles of the last century concerned with railways, and from the author's own experience as a young engineer engaged on railway construction before the war of 1914-18. He describes many types of early American passenger vehicle, and the ingenious inventions designed to improve passenger comfort. Thirty-five contemporary accounts by passengers on U.S.A. railways between 1831 and 1891 bear titles as "An Inhuman Conductor," "The Baggage-Smashers of Omaha," and "Cows on the West Chester Line."

*Lagos Steam Tramway* 1902-1933. By N. S. Miller. London: Railway World Limited, 245, Cricklewood Broadway, N.W.2. 9 in. × 5¾ in. 30 pp. Illustrated. Price 7s. 6d.—As Sir Ralf Emerson, Chairman of the Nigerian Railway Corporation, states in his foreword, things happen so quickly in Nigeria today that the history of what was done 50 years ago is liable to be lost. Despite the destruction of records, the author has assembled much information on this 2-ft. 6-in. gauge line, opened in 1902. Passenger and goods services over the main portion were withdrawn in 1913, though the associated Sanitary Tramway survived until 1933. The most remarkable feature of the Lagos Steam Tramway was the five Hunslet locomotives, of which no trace remains. These were 0-4-0 engines articulated with one-half of a bogie vehicle carrying the coal bunkers and a coach body.

*Twenty Questioners.*—Stewarts and Lloyds Limited, of Brook House, Upper Brook Street, W.1, has issued a booklet, illustrated with humorous drawings, setting out questions and answers on nationalisation of the iron and steel industry. It has been produced primarily for circulation among employees, and copies have been sent to the company's shareholders. The questions and answers are pertinent and clearly phrased. They give good reasons against nationalising this and other industries.

*The Technical Advertising Agency—what it is—what it offers.* London: J. Peers & Associates Limited, Summit House, 1-2, Langham Place, W.1. 10 in. × 7 in. 28 pp. Available on request. An attractively-written and produced exposition of the function of the technical advertising agency.

*Golden Arrow.*—An attractive folder in six colours issued by the Southern Region of British Railways gives particulars of the "Golden Arrow" Pullman service between London and Paris by the Short Sea routes. The information includes fares and timings.

# THE SCRAP HEAP

### End of the Line

A remarkable family record of continuous railway service, dating back to the earliest days of railways in Canada, came to an end recently when a Canadian National Railways conductor, Mr. Henry T. Foy, of Montreal, made his last trip after a career spanning nearly 47 years. Both Mr. Foy's father and grandfather were long-serving conductors with the C.N.R. and its predecessors. The latter worked on the first railway in Canada, the Champlain & St. Lawrence, which was opened between Laprairie and St. Johns, Quebec, in 1836.

### Luggage: One Fighting Chicken

Railways in Cuba are evidently much more liberal in their ideas as to passengers' luggage than those in this country. The stern officials of our companies frequently decline to allow ladies to be accompanied by their little lapdogs, even when tickets are purchased for the animals, and quite recently it was decided that bicycles could not be considered as passengers' luggage. In Cuba, however, we understand that regulations allow gentlemen's hand baggage consisting of " one hat-box, one satchel and one fighting chicken "; but, as a matter of practice, a man is permitted to carry 68 lb. of luggage, including the fighting chicken.—*From "The Financial Times" of December* 3, 1898.

### Motive Power in the Andes

(*See our October* 17 *issue*)

A correspondent in Peru states that the designer of the powerful " 200 " class locomotives of the Central Railway of Peru was Mr. Tom Jefferson, then Chief Mechanical Engineer of that railway.

One of these handsome engines, built by Beyer, Peacock & Co. Ltd. between 1935 and 1953, is illustrated below. Their work includes haulage of 175-ton trains on the Lima-Oroya line from Chosica, at an altitude of 2,812 ft. to the summit in the Galera Tunnel, 15,693 ft., in 73½ miles.

There are, he points out, some 19th century engines still at work in Peru, such as Baldwin 4-4-0s, built in the 1880s. These locomotives are at present operating the mixed and freight trains of the Empresa Del Ferrocarril y Muelle de Eten, a 42-mile standard-gauge railway operating between Eten, Chiclayo, and Ferrenafe with a branch to Patapo in Northern Peru. The maximum permitted speed is 25 m.p.h. and axle load 9 tons.

### Still Chirpy?

A canary which was put on the wrong train and was carried 450 miles in the wrong direction, spending four days and nights in a guard's van without food or water, is recovering in London under the care of the R.S.P.C.A.—*From the " News Chronicle."*

### Train Named after Driver

(*See our October* 24 *issue*)

We are indebted to Mr. Lloyd J. Kiernan, retired Executive Vice-President of the Boston & Maine Railroad, for another example of a train named after the man who drove it.

During the first and second decades of this century, he states, there was on the Yazoo & Mississippi Valley Railroad, then a subsidiary property of the Illinois Central System and now merged into it, a stopping train between Vicksburg and Greenville, making a daily round trip between these points.

The driver was Augustus R. Bigleben (pronounced Bigg'-ly-ben). When Mr. Kiernan knew him, he was a large man, of patriarchal appearance, with white hair and a flowing white beard. He had been on the train for so many years that it had come to be called after him and throughout the countryside was simply called " Bigleben." Workers in the fields would say " Here comes Ben." People in the towns would speak of going up or down on " Bigleben." Only in train orders and official documents was the train ever known by its official number designation; otherwise, even the railway staff referred to it as " Bigleben," or " Ben."

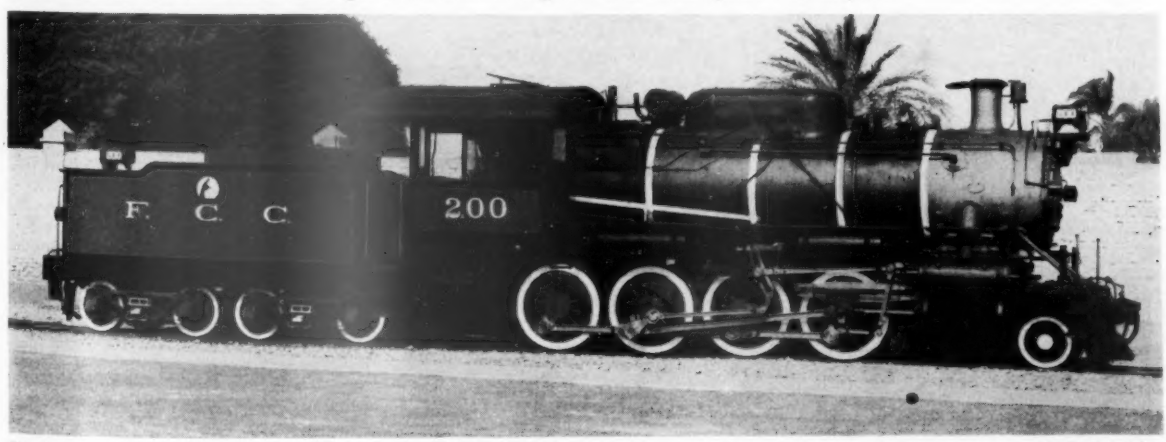
" When I left that part of the country in the early 1920s," he adds " ' Bigleben ' the train and Bigleben the man were still running. The man has long been gathered to wherever old railroaders go, and the train, alas! has long since gone to join the many other picturesque local trains which have disappeared with widespread use of the automobile for journeys in this country. But the legend of Bigleben still endures in those parts."

### Model Railway in Christmas Display

One of the largest model railway layouts in a Christmas shopping display in a department store in Britain is now in operation at Gamage's in Holborn, London, E.C.1. It has about 1,500 ft. of track, with colour-light signals controlled from a cabin equipped with an illuminated track diagram.

### Christmas Fare

More than 850 first-grade turkeys, weighing upwards of 18 lb. each, have been ordered by the Canadian National Railways to provide for the Christmas dinner in dining cars and " dinettes." The turkey order, a little over 8 tons in all, is only the beginning of the Christmas stores required. Thousands of tins of Christmas pudding, 1½ ton of ingredients for dressing, a ton of mincemeat for pies and three-quarters of a ton of cranberry sauce are being ordered by the C.N.R. dining car department. The department is responsible for the serving of more than 20,000 Christmas meals during the holiday period between December 18 and January 3.




*Photo]* *[C. Crofton Atkins*

" 200 " *class locomotive of the Central Railway of Peru, one of a series dating back to* 1935 *which work goods trains up heavy grades in the Andes*

# OVERSEAS RAILWAY AFFAIRS

*(From our correspondents)*

## SOUTH AFRICA

### Locomotives and Rolling Stock

During the three months, July, August, and September, the South African Railways placed 41 new locomotives, 82 new passenger vehicles, and 2,244 goods vehicles of various descriptions in service. The locomotives consisted of 15 diesel-electric, 18 class "5E" electric units, and eight class "GMAM" steam locomotives.

The passenger vehicles were all for the Reef suburban services and were imported from the United Kingdom. The most important additions to goods stock were 361 short fruit wagons, 64 petrol tank wagons, 33 fish wagons, 738 short cattle wagons, 365 bogie fruit wagons, and 18 short refrigerator wagons.

During the same period, two steam locomotives, 13 passenger coaches, and 1,107 goods vehicles of various descriptions were withdrawn from service and scrapped.

## WESTERN AUSTRALIA

### Suburban Track Renewals at Night

Men were working recently during the small hours re-laying rails on the main line between Claremont and Subiaco, in the Perth suburban area. The work has been done during the night because the 20 min. passenger service by day, interspersed with goods trains, does not allow time for the lifting of rails. Whilst one track has been re-laid night goods trains have been diverted to the other track.

Ninety-ft. lengths of welded 82-lb. rail are replacing 45-ft. lengths. This will afford smoother travel and fewer joints with consequent reduction in rail wear and maintenance costs. The night operations have been floodlit for a distance of 1,500 ft., the electricity being provided by a portable generator.

## QUEENSLAND

### Unusual Bridge Erection

An important stage in the quadrupling of the Government Railways line between Brisbane Roma Street and Corinda was completed recently when the new bridge spanning the Brisbane River at Indooroopilly was brought into use. The new structure, which carries the two additional tracks, is of steel and concrete construction and designed to bear steam locomotives with an axle load of 18 tons. It consists of two parallel chord trusses, each 36 ft. high, and built as a through continuous girder over two 342 ft. spans resting on a centre pier.

The placing in position of the superstructure was carried out by assembling the northern span in an erection bay on the north bank. During construction work the span was moved forward until half of it overhung the river and the remainder temporarily ballasted with steel work.

In preparation for launching the span the vessel *Alagna* was fitted with a temporary pier, consisting of two steel uprights, positioned near the stern on the port side. The shore ends of the two bottom members of the span were fitted with rollers, which travelled over two pairs of rails leading to the northern abutment and sited under each of the bottom members of the span to form a runway.

The *Alagna* was brought in at low tide under the end of the span overhanging the river and as the tide rose the temporary steel piers took the weight of the span at the second panel point from the end. As the tide rose further the span was pushed over by two bulldozers while the free end was controlled by winches to anchors up and down stream.

The final position was reached at about high tide and with the running out of the tide the leading end of the span came to rest on the prepared bearing on the central pier. The total weight of the span is some 600 tons and the operation took some 4 hr.

The second span was constructed by cantilevering off the first span towards the southern abutment.

The fabrication and construction of the bridge was carried out by Electric Power & Transmissions Pty. Ltd., Sydney and the approach earthworks on both sides of the river and track laying by the Queensland Government Railways.

*North span of Indooroopilly Bridge approaching pier, showing supports on ship taking the load*

## VICTORIA

### Spray Painting

Spotted paint is being used in spray painting of ceilings of diesel railcars and aluminium panels of anti-draught windshields near the doorways of "Harris" trains. Spotted paint contains various coloured non-mixing pigments giving a mottled effect. It is suitable for surfaces that can become disfigured.

### Heating of Railcars

The Victorian Railways 280-h.p. diesel railcars are being equipped with diesel-fired heaters. These are installed beneath the floor of the guard's compartment. The warm air is taken by ducts under the floor and discharged through openings into the compartments. In summer, the heat is switched off and the fan of the system used to circulate cool air through the vehicle. Previously, electric heaters were placed in railcars overnight and after departure the cars depended for heating upon hot water, circulated through pipes from the engine cooling system. This proved unsatisfactory.

## CANADA

### Faster C.N.R. Schedules

Canadian National Railways has introduced faster passenger train schedules which cut the travel time for both long distances and inter-city passengers in the trans-continental service. The cuts range from a few minutes to almost an hour. Both the "Super Continental" and the "Continental" are affected. Some examples of the time savings are 50 min. from Montreal to Winnipeg by the "Continental" and 20 min. by the "Super Continental."

The latter train also cuts 20 min. from Montreal to Vancouver.

### Aluminium Refrigerator Wagons

Five prototype refrigerator wagons, built almost entirely of aluminium, are being extensively tested by Canadian National Railways. They are designed to eliminate the expensive wear and tear and repainting resulting from the corrosion-causing brine solution used in the refrigerator systems of existing wagons. The roof, side sheets and ends of the five wagons have been left unpainted. One is equipped with strain gauges.

## UNITED STATES

### C.N.W.R. Service to Omaha

Since the Chicago & North Western Railway ceased its historic association with the Union Pacific Railroad in working over the 488 miles between Omaha and Chicago the through trains between Chicago and the chief Pacific Coast cities, now turned over to the Chicago, Milwaukee, St. Paul & Pacific the C.N.W.R. passenger traffic into and out of Omaha has shrunk to negligible proportions. Since September 28, C.N.W. trains have been stopped short at Council Bluffs, and economies thus are being effected by avoiding the use of three miles of Union Pacific tracks across the Missouri River between Council Bluffs and Omaha.

### North Western Diversion

A bypass, 1,500 ft. long and carrying four tracks on a steel and timber trestle viaduct, has been built to carry the Galena Division main line of the Chicago & North Western Railway over the construction work on Chicago's Northwest Expressway, in order to minimise train service interruptions during the two years that the Expressway will be under construction. It is the longest and most substantial of its kind yet required in connection with highway construction in the area. The C. & N. W. has 17 major intersections with new super-highways, but only those involving underline bridges will require temporary track diversions.

### Double-Deck Trains

The Chicago & North Western Railway has obtained from Pullman-Standard two complete trains of double-deck streamline stock for main line use, one to run from Ishpeming, Michigan, through Green Bay and Milwaukee to Chicago and back daily, and the other from Green Bay to Chicago and back. Already the Atchison, Topeka & Santa Fe has four trains of this type, manufactured by Budd, in its "El Capitan" all-coach service between Chicago and Los Angeles, and is completely satisfied with them.

Because passenger seating extends from end to end of each coach, with lavatories, baggage space, kitchen, air conditioning plant, and other equipment all on the lower deck, such trains are lighter in proportion to passenger seating than those of conventional stock. The high level accommodation, with its extensive views, is appreciated by passengers, and is quieter than travel at the normal level.

### Toledo, Peoria & Western R. R.

Some months ago the Interstate Commerce Commission approved the sale of the Toledo, Peoria & Western Railroad, an important 239-mile "bridge" line linking the majority of the main lines leaving Chicago to the east, south and west, to the Pennsylvania and Atchison, Topeka & Santa Fe Railroads jointly. An injunction against the sale was sought by the Minneapolis & St. Louis Railroad, an interested company which also had sought to purchase the T. P. & W. A three-man Federal Court in Minneapolis has now denied the M. & St. L. the injunction sought, and has approved the sale as already authorised. The only remaining step which the M. & St. L. can take is to appeal to the U.S. Supreme Court.

## ARGENTINA

### Strike for More Pay

Locomotive drivers and firemen agreed on December 1, to join more than 6,000 other railway workers in a strike for more pay. The railwaymen were on strike in spite of a Government order mobilising them under military law, and many have already been sentenced to terms of imprisonment. The strike ended on December 3.

## ITALY

### 24-hr. Strike

A nation-wide 24-hour strike of railwaymen almost completely paralysed the State Railways on November 26. Some 90 to 95 per cent. of the 190,000 railwaymen obeyed strike orders by the trades unions in their demands for a sliding wage scale and other benefits.

## FRANCE

### Bridge Demolition

In electrification of the Lyons-Marseilles line, it was necessary to demolish a restricted gauge brick-built bridge at Châteauneuf-du-Rhône. To avoid interference with traffic, it was decided to undertake the task during a 1-hr. 40-min. interval in traffic. Explosives were inserted in the bridge work, and immediately after the 9.25 a.m. movement on the day in question two open wagons were placed beneath the bridge and the charge exploded. The effectiveness of the arrangements enabled the debris to be cleared and the next traffic movement to take place at 11.5 a.m. as scheduled.

### Track Renewals, Culoz-Chambéry

Last summer, the 22-mile section between Culoz and Chambéry underwent a complete track renewal. A Seco ballast scarifier and sifting machine, worked by a crew of nine, deposited waste ballast into open wagons and sorted out the good ballast for re-use. This was followed by a train of trolleys loaded with R.S.-type concrete-block and steel tiebar sleepers which were lowered into place by mobile gantries, and a train of long flats then removed the former track in 18-metre lengths. Long rails in 945-ft. lengths were subsequently unloaded on to the sleepers and secured, three such lengths being welded together in situ. A Pressiat re-ballasting machine replaced the salvaged ballast and this, together with new ballast, was packed and tamped by a Matisa tamper. The work was carried out at the rate of nearly 1,650 ft. of track a day.

### Substation Control in Northern Region

A new substation control centre is being built at Paris Nord, which it is hoped to bring into service very shortly, coincident with the inauguration of electric traction between Paris and Longueau. At present the centre at Douai controls working of all the substations in the Northern Region. When the Paris centre is opened the electric traction installations in the Region will be divided between the Paris and Douai centres.

## SWITZERLAND

### Hydro-Electric Power

By mid-October the supply of water in the artificial lakes supplying the Federal Railways' hydro-electric power-stations, including the S.F.R. share of the Etzel system, represented a total of 268 million kWh. of current, compared with 200 million in the previous year.

## WESTERN GERMANY

### Restitution of Tank Wagons

After 1945 more than 4,300 cistern wagons belonging to Western German private firms were sequestered in Austria after release by the Allied Forces there. Some were confiscated in accordance with the stipulations of the Austrian State Treaty of 1955. Recent negotiations between the Austrian and German Governments provide for restitution to Western German owners of tank wagons which since 1945 have been brought into Austria for the Allied forces fuel supply traffic. Of some 1,000 cistern wagons 650 have now been handed over to the German Federal Railway which has delivered them to their owners.

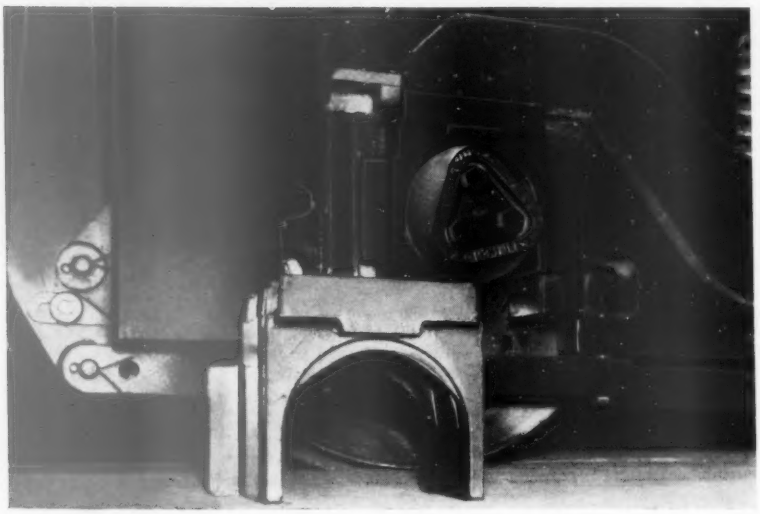
## U.S.S.R.

### Kiev Underground Railway

Plans have been drawn up for the construction of a 5¼-mile underground railway in Kiev, the capital of the Ukraine. There are already two underground railways in Russia, one in Moscow and the other in Leningrad.

# Cartridge-Type Roller Bearings for Locomotives

*Fitted to diesel locomotives and wagons in the U.S.A. to replace conventional journal bearings*



*Adapter showing how thrust lugs bear on the outside of the journal box guide*

ROLLER journal bearings of the cartridge type that have been successfully applied to goods vehicles in the U.S.A. are now being fitted to some diesel locomotives, as reported in our September 5 issue. These bearing assemblies are supplied as complete units containing bearings, outer housing and seals. They can be used for locomotives by employing some type of adapter; a typical adapter is shown in the accompanying illustration.

Using this method the General Electric Company Locomotive & Car Equipment Department of Erie, U.S.A., has applied this type of roller bearing to mine haulage locomotives and industrial diesel-electric switching locomotives in sizes ranging from 35 to 115 tons; an illustration of a General Electric 470-h.p., 65-ton diesel-electric shunter so fitted was published in our issue referred to above.

### Adapter

Existing locomotives fitted with conventional journal bearings can be changed over to roller bearings by modifying the journal box and axle, and adding an adapter.

The adapter is designed to permit renewal of the pedestal wear plates, and installation and removal of the bearing without removing the bogies of the locomotive. This is made possible by the fact that the thrust lugs of the adapter are located on the outside of the truck journal box guides.

### Removal of Adapter

To renew the pedestal guides it is only necessary to block the bogie equalisers and jack one corner of the bogie sufficiently to lift them clear of the pocket in the top of the adapter. The adapter can then be lifted free of the journal unit and removed, thus giving access to the pedestal wear plates without "untrucking" the locomotive or removing the wheel and axle.

If it is desired to remove or replace a bearing, the adapter is removed as described. The bearing can then be pulled by placing a horseshoe-shaped backplate behind the bearing cartridge, shown in the illustration below, and using rods and a hydraulic jack.

### Installation of Bearing

To install a bearing, it is only necessary to bolt a guide and sleeve to the end of the axle. The bearing and the hydraulic jack are mounted on the guide, as shown in the illustration on page 713, and the bearing pressed on the axle by the jack.

### Additional Strength

As already mentioned, the adapter is designed so that the thrust lugs are on the outside of the journal box guides rather than on the inside, as in conventional roller bearing journal boxes. This results in a further advantage of a more sturdy bogie, as the lateral forces are taken on the outside instead of the inside of the bogie frame. As a result, the areas where the sideframes are attached to the bolster receive compressive rather than tensile stresses, greatly reducing or eliminating the stress concentrations and

(*Continued on page* 713)

*Use of backplate and hydraulic jack to remove bearing*

# Resignalling of Watford Terminus, Metropolitan Line

*Programme machine working and automatic train reversal, with remote control, complete the resignalling of the Metropolitan Line, Watford Branch*

*Chairlock type of electro-pneumatic point mechanism, with separate lock to each tongue in its supporting casting and ground track lock*

UNTIL recently the Watford terminus of the Metropolitan Line of London Transport remained equipped with the mechanical signalling originally provided. The junctions connecting with the main line north of Harrow were on September 25, 1955, arranged to be remotely controlled from Rickmansworth signalbox as described in our issue of December 9, 1955.

As a further step in a modernisation plan Watford Station has now been completely resignalled, using two-aspect colour-light running signals, with junction indicators as required, and externally illuminated disc type shunt signals in accordance with L.T.E. standard practice, which was described in our issue of January 3, 1958. All running signals and certain shunt signals have electro-pneumatic train-stops.

For the first time on an appreciable scale in L.T.E. installations the points have been equipped with the so-called "chairlock" layout, generally similar to that used by the French National Railways, but adapted to bull-head type permanent way and modified to meet L.T. requirements by the provision of an electro-pneumatic ground track-lock on facing points used by passenger train movements and a detector proving separately that each switch tongue is in the correct position and the track-lock in the locked condition. An experimental layout of this type has been in use at Earl's Court Station since 1954 (see *The Railway Gazette* of December 31, 1954), but in the layout at Watford, comprising 12 sets of such points, is seen the developed production model.

The locking mechanism, which holds the closed tongue firmly to the stock rail, is enclosed in a casting forming part of the chair supporting the switch tongue. There is thus a separate lock for each tongue instead of a central plunger bolting a stretcher bar, as seen usually in Great Britain. The detection contacts can only be closed to allow the signal circuit to be completed when both switches are in the correct position and held by the e.p. track-lock, itself in turn controlled by the protecting track circuits. The point operating mechanism is of the e.p. type, the L.T.E. standard. The accompanying diagram shows the lines, signals, points, etc., involved in this new work.

### Interlocking Machine

There is now no signalbox at Watford, but a room containing what is known as an "interlocking machine," as used in several installations recently on L.T.E. lines, as for example in the resignalling between Earls Court and South Kensington described in our issue for August 9, 1957. This machine contains the essential elements found in the earlier power lever frames, including mechanical locking mechanism, but the shafts actuating the contacts controlling the circuits to the signals and points are rotated by air cylinders and acted on by the track, approach, route and other electric locks, using standard circuits of well proved design. The operation of the individual shaft

*Interlocking machine at Watford showing, above, the contacts on the pneumatically operated shafts and, below, the mechanical interlocking*

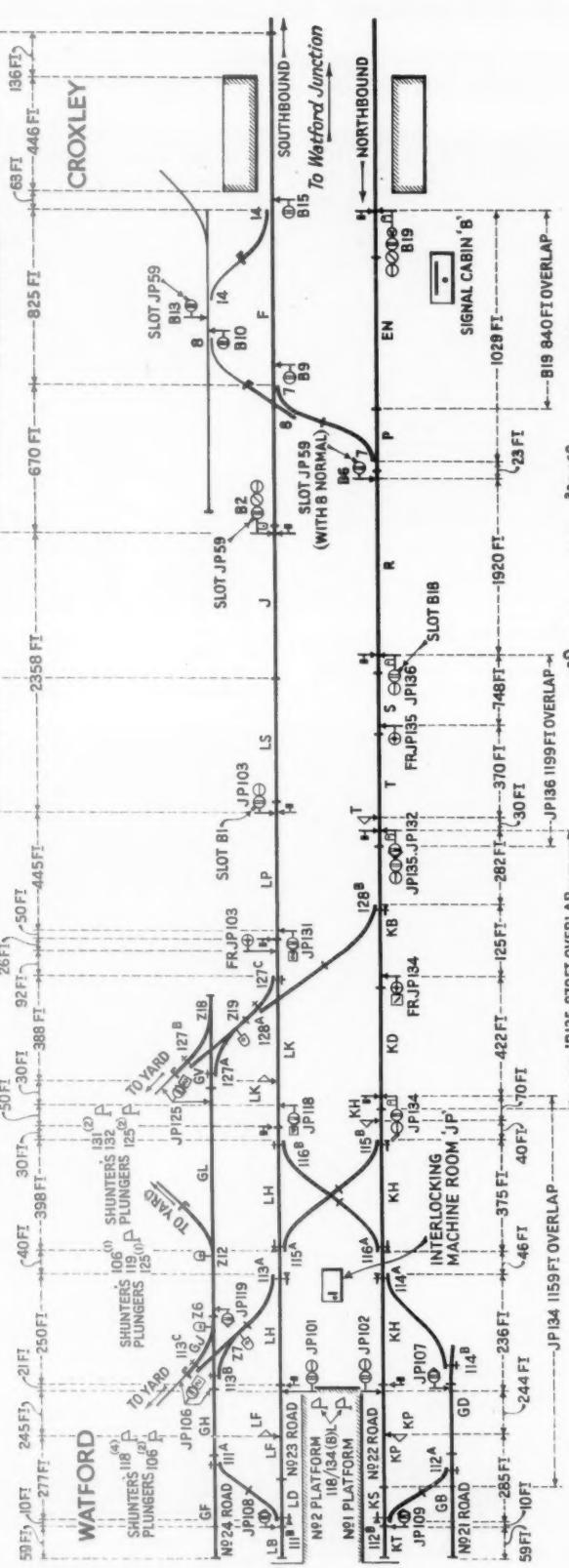



*Diagram of new signalling on the Watford line, London Transport, showing lines, points, signals, junction indicators, track circuit sections, overlap distances, and other features of the installation*

cylinders is decided, on the route setting principle, by groups of telephone type relays answering to the controls set up by a signalman—in this case the signalman at Rickmansworth, three miles away—or some other equipment, as hereafter explained. The controls exercised by the interlocking machine provide absolutely for the safety of the traffic movements, even if conflicting controls should by some mischance affect the relays mentioned, since the machine could not respond to such because the mechanical interlocking provides a positive safeguard against any irregular movement in its mechanism.

### Automatic Controls

The condition of the layout is repeated in the usual manner by an illuminated diagram at Rickmansworth where there is a set of pushbuttons by which the signalman can, if need be, direct all the traffic movements in the ordinary manner. Normally, however, this is effected automatically by a "programme machine," the working of which, particularly with reference to its application to the Northern Line of London Transport, has already been described in our columns (see our issue of December 13, 1957). The Watford installation represents its first application to a surface line. The machine, with which a "time machine" operates in conjunction provides for:—

(1) The reversal of trains of multiple unit stock in either platform and their dispatch at the correct departure times.

(2) The automatic setting of routes to run the locomotive of a locomotive-hauled train round its train before dispatching it at the correct time.

(3) The preparations for the morning service. (Trains are shunted from the electrified sidings to the running line and then reversed into the platform and dispatched at the correct time.)

(4) The routeing of trains at night and in off-peak periods from the platforms to the appropriate sidings.

A programme machine carries a plastic roll typed with a reproduction of the working time-table and punched with holes interpreting this information and used to actuate contacts controlling the signalling. As each train passes the roll is stepped forward to deal with the next operation. A complete roll is carried in a removable holder, so that it can be changed for another covering, say, a Sunday or other service at the time required. Although the machines at Watford have paths for goods trains they do not set the routes for them but warn the signalman at Rickmansworth that such trains are ready to proceed and he then sets up the route required by push-button. He is also provided with keys by which he can step the programme machine forward in the event of a train being cancelled and allow its departure path also to be cancelled.

Another key will prevent the machine from stepping, so that an extra train can be handled at Watford without the machine getting out of sequence. Such extra train must be signalled into and out of the terminus either by push-

button, or automatic reversal control, facilities for which, without regard to timetable operation, are also provided. Under this arrangement the first train to arrive will be first to leave. The starting signal will clear for it as soon as it has been in the platform longer than four minutes. This gives three alternative methods of working the station. (1) normal programme machine working; (2) automatic reversal; (3) push-button control from Rickmansworth signalbox. An additional shaft in the interlocking machine, controlled by a two-position key at that box, serves to isolate the goods yard working at Watford and enables the shunter to set points by hand without interfering with the general station working.

### Track Circuits and Cables

Track circuiting of the single rail condenser feed type is provided throughout with, at selected positions, "rail" circuit of the 10 kilocycle pattern, described in our issue for November 22, 1957, to detect that trains passing over facing points have completed their route and backlocking requirements have been met. This arrangement, which does not require any additional insulated joints in the track, a great advantage, has proved to be very satisfactory.

Line cables used for connections to signals, train-stops, points and track circuits are single or two-core rubber compound, lead covered. Screened multi-core cables with ribbed Neoprene sheaths form the connections between cable runs and track equipment. These have a metal screen round each core, while the ribbed sheathing allows them to be laid on the ballast without concrete troughing or similar protection.

*Sequence programme machine above time machine; on the latter are plastic roll and contacts*

### Signal Cable

A 10-core type is used to connect points and train-stops and a recently developed three-core size for signals. The controls and indications between Watford and Rickmansworth are carried in a 217-core cable of the type developed by London Transport with 0·01 in. dia. conductors and copper screen around the whole. These circuits which end in sealed telephone type relays, as mentioned already, are fed at 110 V. d.c. (This type of cable was illustrated in our issue for February 15, 1957.)

The whole of this signalling modernisation at Watford, which has brought the terminus as well as the triangle junctions connecting with the Harrow-Aylesbury line under the control of Rickmansworth signalbox, which, of course, controls the station there, has been designed and carried out by Mr. R. Dell, Signal Engineer, London Transport, and his staff, to the requirements of the Chief Civil Engineer, Mr. C. E. Dunton, and was brought into service on September 28.

## Cartridge-Type Roller Bearings for Locomotives

(*Concluded from page* 710)

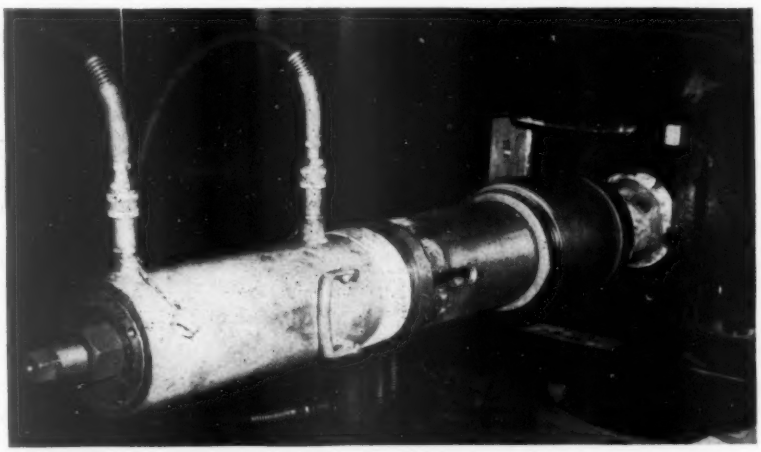
fatigue in this one particular area.

The third advantage claimed for the cartridge type of roller bearing is economy. Because it is suitable for mass production, its cost is relatively low. Maintenance and inspection are practically non-existent. The journal is fitted with an efficient rubbing-type grease seal.

Depending on service conditions, this type of bearing, it is stated, can run for periods up to three years without the addition of grease.

### Reduced Maintenance

This application of the freight wagon-type roller bearing journal unit to locomotives has resulted in the advantages of roller bearings at lower cost; lower bogie frame stresses; and reduced maintenance costs. The ability to renew pedestal wear plates, and remove and install bearings without removal of bogies, should prove of interest to any locomotive users without crane or locomotive repair facilities.



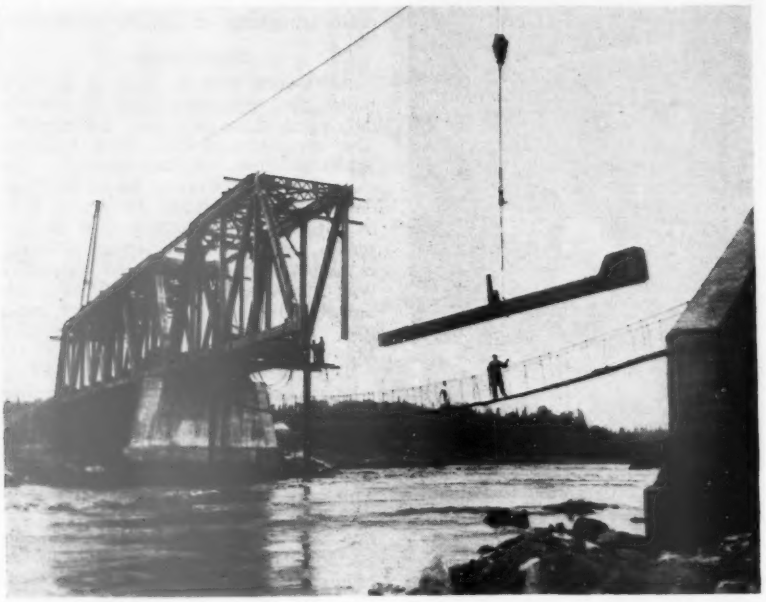
*Guide sleeve and hydraulic jack used in pressing bearing on to axle*

LAUNCHING OF M.V. "LEEDS."—The fourth of six new Clyde-built ships for the modernisation of Associated Humber Lines Limited fleet, was launched on Monday, December 1, and named *Leeds* by Lady Daril Watson, wife of Sir Daril Watson, a member of the Shipping & International Services Sub-Commission of the British Transport Commission. The vessel is the second of three being built by A. & J. Inglis Limited, of Glasgow. It should be completed in the Spring for trade from Goole and Hull to the near Continental ports. The design is by the British Transport Commission's consultants, Burness, Corlett and Partners, in conjunction with Associated Humber Lines Limited. The *Leeds* is a single-screw cargo motor ship of approximately 1,500 tons deadweight, fitted with a Ruston & Hornsby 7 V.O.X.M. diesel engine to give a service speed of 12½ knots, and is of the open shelterdeck type with flat raked soft-nosed stem and a cruiser stern. It will be able to convey up to 25 of the largest British Transport Commission "B" type railway containers, and there are two cargo holds for palletised traffic.

SEPARATE TELEPHONE NUMBER FOR PASSENGER TRAIN ENQUIRIES AT BRISTOL TEMPLE MEADS STATION.—Direct lines from the public exchange now serve the Telephone Enquiry Office at Bristol Temple Meads Station, British Railways, Western Region. Passenger train service enquiries should be made to Bristol 93451 (eight lines).

# Three-Hundred-Mile New Construction by the C.N.R.—1

*Works involved in the building of the Beattyville-Chibougamau line*



*Bell River Bridge under construction by the cantilever method with the aid of a cableway. A lower-chord member from the cableway being guided to its site by a man on the catwalk*

IN 1954 the Canadian Parliament passed a Bill authorising the construction of two new sections of line by the Canadian National Railways in Northern Quebec: (*a*) Beattyville-Chibougamau, 161 miles long and estimated to cost $18,000,000; and (*b*) St. Felicien-Chibougamau, 133 miles, at a cost of $17,000,000. As it was to provide a direct route from the rich mining area around Chibougamau to the Noranda smelter, 250 miles to the west on the Quebec-Ontario border, Section (*a*) was taken in hand without delay, work beginning in November of that year; it was completed in November, 1957. Work on Section (*b*) began from St. Felicien in September, 1955, and the line is expected to be open for traffic in 1959. The reasons for and prospects of these two sections, forming part of a 450-mile loop beginning and ending on the C.N.R. Northern Transcontinental Line are outlined in an editorial on another page.

### Beattyville to Chibougamau

Contracts for the clearing, earthworks, drainage and substructures of bridges for this section were let in 1954, in two sections (1) Beattyville-Bachelor Lake, 70½ miles, and (2) Bachelor Lake-Chibougamau, 90½ miles. The country traversed is open rolling land composed of fine clay and boulders, rock-ridges, and muskeg (bog), with sandy soil in a few places; the entire terrain is heavily wooded. The erection of bridge steel superstructures, ballasting and platelaying were carried out by railway staff. 85-lb. rails on creosoted sleepers were laid on gravel ballast from deposits at various points along the line.

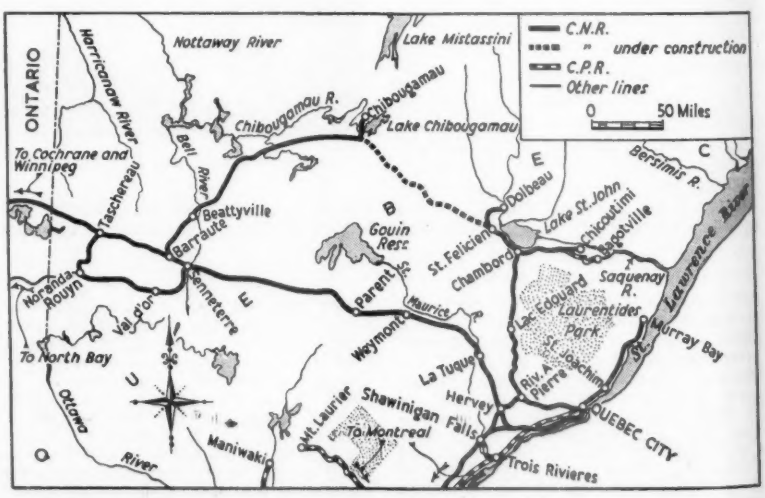
### Difficulties Encountered

This would seem to be a straightforward undertaking. In fact there were considerable difficulties, caused primarily by the climate and the muskeg. During the long winters temperatures fell to −95° F., or 63° below zero, and blizzards were frequent. In summer 90° was common and the attacks of the vicious black-fly were devastating. Work on the muskeg resulted in the formation in the first instance, and later on lengths of newly-laid track disappearing without trace into the treacherous muskeg. All these conditions made transport and the movement of earth-moving plant exceedingly difficult at different times, and the flies and extremes of temperature were most trying for the staff and labour. There were also delicate bridging problems to be solved as for instance at the crossing of the Bell River with its 20-knot current and alternating rapids and 25-ft. depth.

### Bell River Bridge

This is the most important single work on Section (*a*) and consists of two 196 ft. 10 in. through girder spans. The trusses are of the Warren type with verticals and are 30 ft. 6 in. high. The site chosen for it is at the head of Kiask Falls Rapids where the normally-wide Bell River is only 200 ft. wide in its main channel and 25 ft. deep; at high water the velocity of the current is over 25 m.p.h. The river banks and bed are of solid rock and the concrete abutments and pier are founded on it. The western span is over the main stream, the eastern being across the shallow part of the river. The trusses were designed to have a roadway cantilevered out from them and for Cooper's E.50 live loading.

The eastern span was erected on timber falsework and the western, main-channel span was erected by the cantilever method from the pier end using the eastern span as counterweight with tie-backs between the top chords of the two spans. To avoid having to carry the steelwork and plant round by a 20-mile detour—12 miles through dense bush—it was decided to erect a cableway across the river, on which no boats




*Map showing the new loop in relation to the C.N.R. Northern Transcontinental and other lines*

*Construction of one of the bridges over Lake Opawica under arctic conditions, a typical scene in the long winter*

could be used due to the rapids. The steelwork was carried by rail up to the west bank and thence by cableway to the east.

The support for the cableway on the west bank was a steel trestle or A-frame 100 ft. high with its legs supported by H-piles driven through the approach embankment, and straddling the track; the bottom panel of the trestle was designed to allow a locomotive crane to pass under it with jib fully raised, for handling the heaviest bridge member. On the east bank the support was a needle-point tailmast 120 ft. high. As it had to be carried round by detour to the east bank this mast was fabricated in three sections to facilitate carriage. The mast was capable of lateral tilting by luffing tackle, so as to enable steel members to be placed exactly where required. The cableway was designed for a six-ton hook load, the weight of the heaviest bridge member; the span between supports was 600 ft. Due to the tilting of the mast and to the top horizontal member of the trestle being fitted with a transverse-moving trolley carrying the cable, the latter could be moved transversely throughout the span.

### Track Cable

The track cable was a 1¼-in. dia. wire rope of the 6 × 19 strand lang-lay type, and its carriage was a steel frame with four track wheels and three single-sheave blocks. A catwalk or suspension footbridge was thrown across the west span to enable staff to reach the east bank and to guide the truss-members to their position for erection. Life-preservers were laid across the river as a safety measure during construction.

Though it was the most difficult, the Bell River Bridge was by no means the only one of importance on Section (*a*). The Chibougamau River crossing required three spans each of 100 ft. The first crossing of Opawica Lake has one span of 90 ft. and two of 45 ft. and the second takes the form of one 200-ft. and two 45-ft. spans.

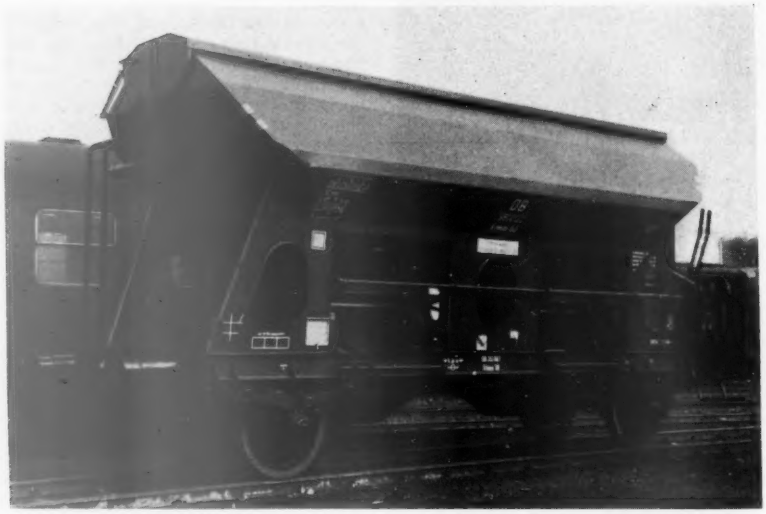
(*To be continued*)

## Diesel Haulage in Peru

*Freight train, hauled by two coupled Alco DL. 500 locomotives approaching Arequ'pa, on the Southern Railway*

# Self-Discharge Hopper Wagons with Swinging Covers

*New design for German Federal Railway to replace bascule-covered eight-wheel stock*



*Type Ktmm 60 self-discharge hopper wagon for German Federal Railway*

FOUR-WHEEL hopper wagons with swinging covers are being put into service by the German Federal Railway. Tests have been made with 20 wagons and have proved satisfactory. So far 200 wagons, part of an order of 820, have been delivered by three Western German firms.

The hopper, Ktmm 60, is an improvement of the four-wheel self-discharge open hopper, type Otmm 57, and includes a swinging roof which was developed because of occasional inconveniences incurred when using the bascule covered eight-wheel stock, type KKt. With the bascules open, there was not enough clearance for the hopper to be shunted under the loading bay. The cylinder-casing shape swinging cover of the Ktmm 60 eliminates this disadvantage. The cover is pivoted on a longitudinal rod mounted along the centre of the wagon and can be opened, for loading, by operating a hand lever on the wagon platform. The aperture is 4 ft. wide and extends along the entire length of the wagon body.

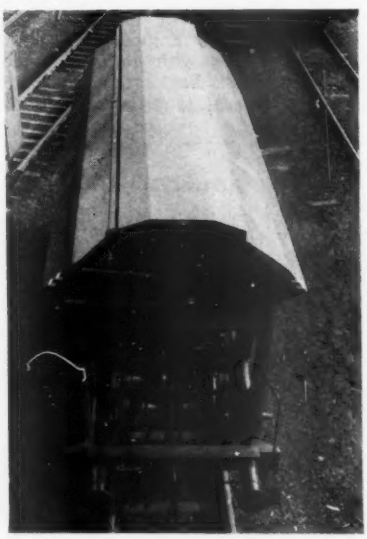
The stock is designed for all kinds of bulk goods, such as lime, chemicals, grain, sugar, coal, and lignite. The wagon body is damp-proof.

### Discharge Mechanism

Discharging can be controlled, and an extended hopper bottom facilitates unloading into bunkers and on to conveyor belts. The welded wagon body is fabricated from steel and copper alloy sheeting. The load is discharged through four outlets, two on each side, and can be controlled by a clinch bolting shutting device which is controlled by handles that operate the four slides in the body side walls. By this mechanism the opening of the outlets can be adjusted in stages at 1 in., 8 in., and 1 ft. 8 in.

The principal dimensions are as follow:—

| | |
|---|---|
| Length over headstocks | 30 ft. |
| Tare weight | 12 tons |
| Max. height above rail | 13 ft. 11⅛ in. |
| Volume | 42 cu. yd. |
| Wheel base | 18 ft. 0⅛ in. |
| Loading length | 24 ft. 3 in. |



*End view of hopper wagon with swinging cover closed*

*Swinging cover open, showing cover operating mechanism*

MONCTON HUMP YARD, C.N.R.—Good progress is being made in the construction of the Canadian National Railways' £5,000,000 automatic hump retarder yard at Moncton, referred to in *The Railway Gazette* of December 13, 1957. Track laying is now well in hand and when finished there will be 72 miles of sidings and other lines. The capacity of the yard will be 4,248 wagons and 2,000 will be able to be received and dispatched daily. Work is also in hand on the construction of eight miles of approach roads, drainage and water systems.

NOVEL BRIDGE-BUILDING PLAN IN U.S.A.—At Metuchen, New Jersey, it was decided to run a new city street under the electrified New York-Philadelphia main line of the Pennsylvania Railroad, which is four-tracked and carries a very heavy traffic. It was decided by the engineers that if the bridge-building were carried out under the tracks, there would be considerable interference with railway operation. The new bridge was therefore built in a location parallel to the railway, and sufficient land being available, the railway tracks were slewed on to the new bridge one by one, with sufficiently flat curvature to avoid the imposition of any future speed restriction on the lines concerned. The old bridge and the short sections of line adjacent were then abandoned. The work began on April 1 last and was completed at the end of October.

# RAILWAY NEWS SECTION

## PERSONAL

Mr. V. T. Narayanan, Divisional Superintendent, Allahabad, Northern Railway of India, has been appointed Chief Commercial Superintendent, Eastern Railway of India.

Mr. H. D. Awasty, Director (Civil Engineering), Indian Railway Board, who, as recorded in our August 1 issue, has been appointed General Manager & Chief Engineer (Railway Electrification), Indian Railway Board, was born in 1906. Mr. Awasty joined the former North Western Railway of India in 1931 as an Assistant Executive Engineer. After more than 12 years in the open-line, water supply and bridge departments, he joined the Railway Board, in 1947, as Deputy Director, Civil Engineering. In 1948 he transferred to the Assam Railway Project as an executive engineer, later becoming Deputy Chief Engineer. In 1950 he was appointed Deputy General Manager (Personnel) on the former Oudh Tirhut Railway. He returned to the Railway Board as Joint Director, Civil Engineering in 1955 and worked also as Joint Director (Planning). In the early Stages of the railway's second Five Year Plan, Mr. Awasty was closely connected with the planning work and, in 1956, he became Director, Railway Planning. In 1957 he was made Director, Civil Engineering. In his present appointment, taken up last June, Mr. Awasty will be responsible for the electrification of about 2,400 miles of track.

Mr. H. Rossington, District Manager, London District, South Eastern Division, British Road Services, has been obliged to relinquish his appointment for reasons of ill health.

Mr. D. K. Redford has been appointed Secretary, and not Manager & Secretary of the Manchester Ship Canal Company, as stated in our December 5 issue.

London Midland Region, British Railways, announces the following appointments:—

Mr. S. B. Lovegrove to be Assistant Line Traffic Officer (Operating), Crewe.

Mr. F. H. Newman to be Assistant (Modernisation) to Operating Officer, Euston (located Crewe).

Mr. A. S. Turner to be Assistant (Passenger Services) to Operating Officer, Euston.

Mr. C. H. W. Barnes to be District Estate Surveyor, East Lancashire District, Manchester.

Mr. J. W. G. Turner to be District Road Motor Engineer, Blackburn.

Mr. F. Cousans, Foundry Superintendent, Hadfields Limited; Mr. G. Wood, Heat Treatment Superintendent, Hadfields Limited, and Mr. R. C. Heys, Managing Director, Millspaugh Limited, have been appointed directors of Hadfields Limited. Mr. Cousans and Mr. Wood were previously Local Directors.

Mr. George Dow, M.Inst.T., A.I.Loco.E., Commercial Officer, London Midland Region, British Railways, who, as recorded in our November 28 issue, has been appointed Divisional Traffic Manager, West Midland Division, was educated at Watford Grammar School and Brighton College, and joined the London & North Eastern Railway as a junior clerk in 1927. After five years of experience in the Chief General Manager's office he was appointed District Agent in the Commercial Advertising Department. In 1937 he was attached to the Advertising Manager's Headquarters for special duties in connection with station improvements. In 1939 he was appointed Information Agent, an appointment later redesignated Press Relations Officer. On nationalisation, he became Press Relations Officer, Eastern & North Eastern Regions. He was appointed Public Relations & Publicity Officer to the London Midland Region in 1949, in which capacity he was responsible for the complete reorganisation of the department, and initiated numerous developments in poster technique, modern signs, advertising display equipment and layout at stations. Mr. Dow is a well-known author and lecturer on railway subjects, and is a Past-President of the Model Engineering Trade Association.

*Mr. H. D. Awasty*

Appointed General Manager & Chief Engineer (Railway Electrification) Indian Railway Board

*Mr. George Dow*

Appointed Divisional Traffic Manager, West Midlands, London Midland Region

*The late Mr. J. Hopwood*
Chief Superintendent of Transportation, Rhodesia Railways, 1943-47

*Mr. E. A. Grace*
Appointed Assistant General Manager, Coras Iompair Eireann

*Mr. E. Ceannt*
Appointed Administrative Assistant, Organisation, C.I.E.

Mr. James Hopwood, O.B.E., Chief Superintendent of Transportation, Rhodesia Railways, whose death was recorded in our December 5 issue, began his railway career with the Argentine Great Western Railway in 1897, and served as clerk and stationmaster. In 1902, Mr. Hopwood resigned and went to Rhodesia to join the Beira & Mashonaland Railways as a clerk in the Traffic Superintendent's Office, Umtali. After service at Gwelo, he became Stationmaster at Selukwe. In 1905 he was appointed Stationmaster, Salisbury, transferring to Gwelo in 1908 and later that year to Umtali. While at Umtali, Mr. Hopwood acted as Goods Agent at Beira, District Traffic Superintendent at Bulawayo, and, in 1916, as Stationmaster at Bulawayo. In the following year he was appointed Chief Clerk to the District Traffic Superintendent, Salisbury, and, in 1922, became Assistant Traffic Superintendent. While holding these positions he acted as District Traffic Superintendent for several periods, at both Salisbury and Beira. In 1925 he was appointed Assistant Traffic Superintendent, Livingstone, and, in 1926, District Traffic Superintendent, becoming District Superintendent of Transportation, Livingstone, in 1927. In 1931 his office was transferred to Broken Hill and he continued in charge of the Northern District until 1932, when he was appointed Acting Operating Superintendent, Bulawayo. In January, 1934, Mr. Hopwood was confirmed as Operating Superintendent, holding this post until 1943, during which time he acted as Chief Superintendent on two occasions. In July, 1943, Mr. Hopwood succeeded Mr. W. B. Dawson as Chief Superintendent of Transportation. He served as an assessor on the Strauss and Grant Railway Arbitration Tribunals and, during the Royal Visit in 1947, he was manager of the White Train in Southern Rhodesia. Mr. Hopwood was awarded the O.B.E. in the 1947 New Year Honours List and retired in August that year. On his retirement Mr. Hopwood had completed 45 years with Rhodesia Railways, and had had the longest service of any member of the staff on the system.

Mr. Edmond A. Grace, who, as recorded in our November 7 issue, has been appointed Assistant General Manager, Coras Iompair Eireann, is 39, and was educated by the Christian Brothers. Mr. Grace qualified as a chartered accountant in 1943, and was awarded the Gold Medal of the Institute of Chartered Accountants in Ireland. He was appointed Secretary of Cork Dockyard Limited, and, for a time, acted as Manager. In 1946 he was appointed Investigating Accountant, Coras Iompair Eireann. In 1953 he became Assistant Chief Accountant, but resigned in the next year to become Secretary of Odeon (Ireland) Limited and Irish Cinemas Limited, the position which he now vacates. Mr. Grace is a member of the Dublin Chamber of Commerce, and a member of the Institute of Management. In 1951, Mr. Grace was a member of a European Productivity Group which studied cost control and management in the United States. He assisted in drafting a report entitled Cost Control & Productivity.

Mr. Eamonn Ceannt, B.Comm., who, as recorded in our November 28 issue, has been appointed Administrative Assistant on Organisation, Coras Iompair Eireann, is a specialist in organisation and methods. He will be on loan from the Department of Finance where he has been Assistant Principal Officer since 1950. He was educated at Synge Street School and Belvedere College, and entered the Civil Service in 1936. Eight years later he was appointed Administrative Officer in the Department of Finance and became Private Secretary to the Minister in 1949. Since 1950, he has had special responsibility for organisation and methods in the Civil Service. A founder-member of the Irish Work Study Society, Mr. Ceannt is also a member of the Institute of Management and the Institute of Public Administration.

Mr. Arnold Carr, Assistant Managing Director, Thos. W. Ward Limited, has been appointed Deputy Chairman. Mr. Douglas F. Walton has been appointed a director. Mr. Walton has been in charge of the Railway Sidings Department of the company since 1955.

Mr. Alan Hess has been appointed Public Relations Manager, Simms Motor & Electronic Corporation Ltd.

Mr. P. N. Matton, Managing Director, Trico-Folberth Limited, and Mr. P. M. Langfier, Equipment Manager, are visiting the Trico parent company in Buffalo, New York.

London Midland Region, British Railways, announces the following appointments:—

Mr. J. Rhodes to be Assistant District Commercial Manager (Sales), Derby.

Mr. C. H. Garratt to be Assistant to Works Manager (Diesel, Carriage & Wagon Works), Derby.

Mr. A. A. Taylor to be Assistant District Estate Surveyor, Liverpool.

Mr. J. G. Spencer to be Assistant District Motive Power Superintendent, Derby.

Mr. A. H. Webb to be Assistant to District Operating Superintendent, Leicester.

Mr. L. A. Blanchard to be Assistant to District Passenger Manager, Manchester.

Mr. A. W. Kearsley to be Assistant Book-Keeper, Regional Accountant's Office, Euston.

Mr. B L. Freeman to be Assistant District Operating Superintendent, Liverpool Central.

Mr. C. J. Smith to be Assistant to District Goods Manager (Cartage), Broad Street.

Mr. A. Porter to be Assistant District Motive Power Superintendent, Toton.

Mr. J. Fore to be Assistant District Motive Power Superintendent, Willesden (located at Camden).

Mr. L. Eastwood to be Electrical & Road Motor Accountant, Regional Accountant's Office, Euston.

Mr. J. Balmer to be Stationmaster, Manchester Central.

Mr. M. N. Thornley to be Stationmaster, Wigan (North Western).

Mr. W. H. Price to be Stationmaster, Manchester (Victoria), also in charge of Manchester (Exchange) and Salford stations.

Mr. B. Blackburn to be Stationmaster, Preston.

# NEW EQUIPMENT AND PROCESSES

## Four-Wheel Drive Dumper

THE Douglas M.44 four-wheel drive dumper chassis can be fitted with an ordinary or concrete dumping body for civil engineering work, where the short wheelbase and four-wheel drive afford manoeuvrability in difficult conditions. It has been designed on the basis of previous four-wheel drive chassis of various types on which have been mounted various kinds of equipment, such as tipping bodies and oil servicing rigs.

The chassis fitted with a Dumpcrete body, for concrete, is shown in the accompanying illustration. The ordinary dumper body is of 8 cu. yd. capacity with a 75-deg. tip at a speed of 9 sec. The maker's range of vehicles includes dumpers from 2 cu. yd. to 15 cu. yd. capacity.

The engine is a high-speed Rootes Lister two-stroke diesel, which with eight-speed gearbox gives a tractive effort of approximately 16,000 lb. and provides a wide range of performance.

Details, including price and delivery, may be obtained from the manufacturers, Douglas Equipment Limited, Kingsditch Lane, Tewkesbury Road, Cheltenham.

## Sleeper Drilling Machine

A RAILWAY sleeper drilling machine employing six ½-in. electric drills of standard design has been built to speed production work which could not be handled otherwise except by a much more expensive machine tool, also involving considerable delay in delivery.

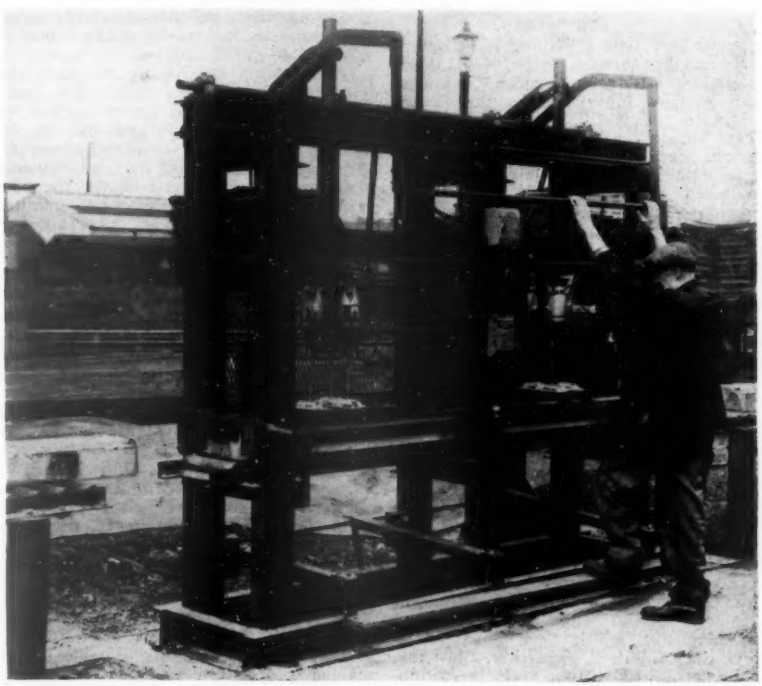
The work head comprises two groups of Wolf ½-in. General Duty Drills mounted on fixtures which hold the tools rigidly in place. The two fixtures in turn are mounted on a common rail with a means of adjusting the distances between group centres. To simplify control, the switches of the individual drills are removed and the tools connected to a master push button switch which automatically comes into action when the overhead feed rail is pulled down by the operator. Similarly the circuit is opened upon the return stroke. The total time taken to drill six or eight ½-in. dia. holes in the 5½-in. thick timber is claimed to be considerably under ten seconds. Many thousands of sleepers have already been drilled since the original machine was installed less than four months ago at the West Hartlepool depot of Burt, Bolton & Haywood, the Engineering Department of which carried out the design work. Standard roller conveyor track forms the work table.

The price of the ½-in. electric drill is £16 15s. Delivery is ex-stock. Further details may be obtained from the manufacturer, Wolf Electric Tools Limited, Pioneer Works, Hanger Lane, London, W.5.

## All-Purpose Hand Truck

THE Quinell hand truck for the movement of barrels, drums, casks and shaped objects can help work in depots and transit sheds and also in the stores department. It can carry 6 cwt. A leading edge on the front of the cradle is tapered to allow easy entry under the object to be lifted. A grappling hook on the handle shaft can be adjusted to secure the load. The wheels are made of acid-resisting rubber with hardened ground bushes. No maintenance is required other than occasional greasing of wheel spindles.

Total overall length is 4 ft. 6 in., and height 2 ft. 3 in. The cradle dimensions are 24 in. by 18 in. by 4 in. deep. The total weight 44 lb. The price is £17 10s. delivered. Further details may be obtained from the manufacturers, Cranmer Engineering, Limited, 45, New Cross Road, London, S.E.14.



# Ministry of Transport Accident Report

*Dagenham East, January 30, 1958; British Railways, Eastern Region*

Brigadier C. A. Langley, Chief Inspecting Officer of Railways, Ministry of Transport & Civil Aviation, inquired into the accident which occurred at about 7.34 p.m. in dense fog on January 30, 1958, at Dagenham East station when the 6.35 passenger train, Fenchurch Street to Shoeburyness, consisting of 11 coaches, drawn by a standard class "4" 2-6-4 tank engine and travelling at about 25 m.p.h. on the down through line, overtook the 6.20 passenger train, Fenchurch Street to Thorpe Bay, consisting also of 11 coaches drawn by a class "4-P" 2-6-4 tank engine, moving at about 5 m.p.h. towards the home signal. The guard's and the last three passenger compartments at the rear of the latter were demolished; this coach and the one ahead became derailed, together with the engine and leading coach of the colliding train. Each train was carrying about 500 passengers. Ten were killed and 89 passengers and four railway servants injured; 72 were taken to hospital and 57 detained. Some wreckage thrown on the adjoining up local electric line was struck by a slowly moving London Transport train. Help was summoned at once and arrived from many directions, aided by much voluntary assistance. Despite the bad weather conditions, with 10 to 20 yd. visibility in places and darkness, rescue work was most efficiently performed and the injured treated and conveyed to hospital without delay.

Railway services were speedily reorganised. The up through line was re-opened for a time early next morning for the peak traffic, but closed again to facilitate work: both through lines were in full operation again after a stoppage of some 18 hours.

The accompanying diagram shows the lines, signals, etc., essential to an understanding of the case; the parallel electrified local lines are not indicated.

### Signalling

Semaphore type signalling is in operation on the through lines, with three-indication interlocking block, equipped with controls introduced by the former L.M.S.R., originally owning the line. These ensure the correct working of the various signals for each train and their restoration to the "on" position and are combined with berth and other track circuits to give a very complete degree of protection against mistakes. Intermediate section signalling is in service between Barking and Upney signalbox and between Becontree and Dagenham East, with appropriate track circuiting. Some signals have detonators working in conjunction, and there are also placers operated from signalboxes. Automatic train control is in operation at the distant signals—except inner distants—throughout the route, with track inductors located about 200 yd. in rear of each signal. The whole of this and other signalling equipment was found to have been performing its intended functions; no question of a signal failing to return to the "on" position or other danger side defect in the apparatus arose.

Upney signalbox, although adapted for switching out, was open when the accident occurred, but Becontree box had been closed after the colliding train had been accepted there. The rules governing switching out, which have remained in force since L.M.S.R. ownership, allow this to be carried out with a train in section, although those obtaining elsewhere in the Eastern Region, to which the line now belongs, do not. The process involves careful observance of rules and there is the possibility, if they are not strictly followed, of an irregular "line clear" block indication being shown, with consequent signal release, which could inadvertently be made use of. Brigadier Langley witnessed the production of such a false indication in the course of a test but became satisfied that this had not occurred on the evening of the accident. The rules concerned, with others bearing on the case, are given in the report, with tables of train movements, extracts from train registers and rules, drawings, etc., covering every circumstance involved.

### Course of Events and Evidence

Fog covered the whole Southend line but was denser at Dagenham than elsewhere: at Upney and Becontree visibility was between 10 and 20 yd. but improved later and between 1 and 2 a.m. Brigadier Langley could see signal lights at 80 yd. Drivers were feeling their way after receiving A.T.C. warnings, which proved of great assistance to them and enabled them to drive with increased confidence. Upney box had not closed at the usual hour of 7.15 and a porter signalman was on duty. Another was at Becontree, where ordinarily the box closed at 9.50, but only one man was available that day who was due to go off duty at 7. As it was, he had to remain somewhat longer. Dagenham East box was open continuously.

The real point of conflict in the evidence related to the working of Upney starting signal, UY6 (see diagram). As track circuit extended up to it the rules did not prohibit sending a train forward to it in bad visibility. There were certain other inconsistencies in parts of the evidence but these did not materially affect the main conclusions at which Brigadier Langley ultimately arrived.

The Upney signalman described the acceptance and passing of the 6.20 train. He was expecting the Becontree box to be closed about this time but denied speaking to the man there about it, although the latter said there was such a conversation. He then accepted the 6.35 train which he held one to two minutes at the home signal, UY.7, which is outside the box. He then allowed it forward to the starting signal and meanwhile Becontree box had closed. (To enable that to be done he had had to give a release for the up through line, which was unoccupied.) He asserted positively that the switching out was correctly done and that the down through block indicator was maintained at "train on line" the whole time. In reply to a question from the guard of the 6.35, as the train moved ahead, he told him that Becontree box was now closed. After clearing the up signals for a train he left the box for personal reasons and was astonished on returning to see the track circuit to signal UY.6 had become clear. He telephoned to Dagenham and then ran along the line in the forlorn hope of seeing a tail light. Returning he sent the "running away" signal and received "obstruction danger" in reply. During a long examination his statements remained generally consistent. An entry in his book, 7.23, for the arrival of this train had been altered to 7.25, but he said he had not altered this but merely made the figures stand out when he heard about the collision, as the time where the train last stopped was of great importance. A man of 45, with 12 years' service, he had been in his present grade 2½ years.

The Becontree signalman, 36, with less than a year's service and five weeks' signalling experience, said he switched the box in at 3.33 p.m. He accepted the 6.20 train when offered and later informed Upney that he would try to close and therefore give no "out of section" signal for it, to which the man there replied that he knew that. He advised the signalman at Dagenham of his intention and received a like consent. As soon as he was able he offered this train to Dagenham and, having cleared the up signals already, cleared the down: he gave "entering section" before the train reached his home signal, to be able to close the box, which he did in the proper manner. He then left to catch a train from the local platform. While standing there he heard a train pass which he took to be the 6.20, but it was in fact the colliding 6.35. The 6.20 must have passed as he was walking across.

The Dagenham signalman, 49, Class I, with 34 years' service, said that the Becontree signalman advised him by telephone that the 6.20 was coming and he intended to close while the previous train was still held at his home signal; he accepted the 6.20 immediately that was permissible and at once received and acknowledged "entering section": the block indicators were correctly operated to "train on line." He cleared signals DH. 33, 31, 30, and 29 at about 7.30. Shortly after the Upney signalman telephoned saying he thought the 6.35 train had passed his starting signal and would "go outside and make sure." At 7.36 "train running away" was received and all signals replaced to danger except for the down through as the 6.20 train still had not reached the berth track circuit. He telephoned to a lineman in the station to send someone to tell its driver to hurry, but a minute or two later learned of the accident, which must have occurred about 7.34.

The fireman of the colliding train arrived in the box with more news and later brought his driver. The signalman said he asked if they had over-run the Upney signals but the driver said they were pulled up at the starting signal which was then cleared and added it was the signal "alongside the little cabin by the bridge." (The starting signal is not at that point: see diagram.)

The Dagenham signalman said he was not worried by this; he was sure the procedure for closing Becontree had been correctly followed, while the Upney signalman had warned him that his starting signal had been passed at danger. This statement he was positive about and he repeated it in the driver's presence.

The driver of the 6.20 train detailed the course of his journey. Dagenham distant was "on" and he went forward very cautiously and was coasting at about 4 m.p.h. when he felt the collision. He received a caution at signal B.C.6 and assumed the box to be still open but did

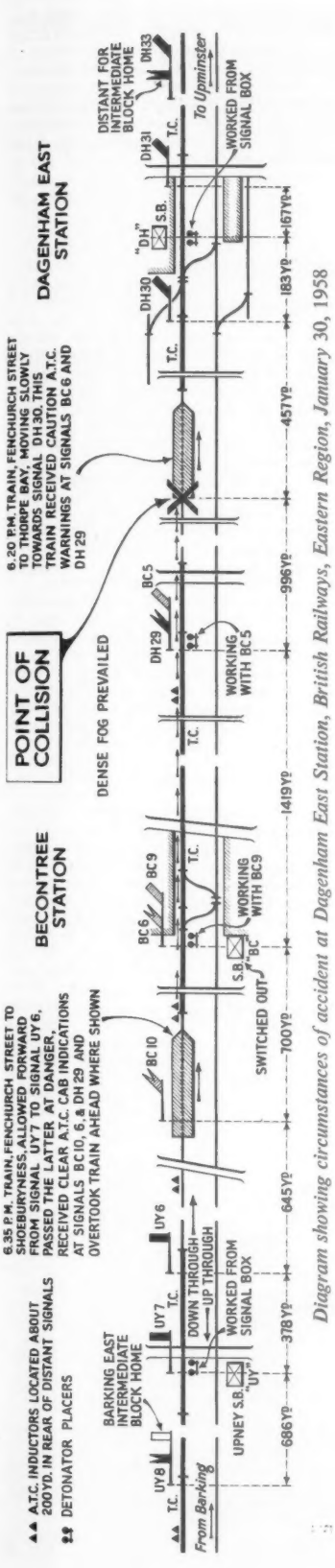



*Diagram showing circumstances of accident at Dagenham East Station, British Railways, Eastern Region, January 30, 1958*

not see it. He had driven on the line since 1947 and found the A.T.C. a very great help. His evidence was generally corroborated by his fireman.

The engine of the 6.35 (colliding) train was running bunker first in charge of a passed fireman. Aged 25, he became passed fireman in 1957 after 5½ years' experience on the line; he was quite satisfied he knew the positions of all the signals. He did not recollect being in charge in a fog before. Shocked by the accident he was so still when seen by Brigadier Langley, before which he had made a written statement to the Line Traffic Manager, which, however, contained a reference to non-existent signals.

In this, and in his evidence before Brigadier Langley, he declared the Upney starting signal to have been clear for him, but confirmed having been stopped at the home. He also admitted the mistake in the written statement. He received a clear A.T.C. indication at signals BC.10 and 6 and DH.29 and was maintaining a steady speed when he saw a red light ahead. He could not recollect a conversation with the Dagenham signalman. At a second examination his statements were much the same.

His fireman, aged 19, had a very good knowledge of the signals and described well the journey to the Upney home signal. They were both looking out thereafter and he saw the starting signal at green; he remarked to his driver that it was the first time they "had had a green one". It was pointed out to him that he had seen several stop signals at green but all the distants yellow; his remark might refer to a distant signal. He insisted he was referring to the Upney starting and could produce no satisfactory explanation; he replied significantly to one question by saying, "I mean it was the first time we had a green right away, sort of thing. More so when we got the Becontree distant off." He confirmed the running of the train thereafter and hearing the driver shout "red light ahead."

Cut and shaken he ran to protect the train; he denied hearing any conversation between his driver and the Dagenham signalman about the Upney signals.

Other evidence from the guard, a driver, a lineman working at the Dagenham distant signal and a local resident dealt with other matters but threw no light on the working of the Upney starting signal, except that it was undoubtedly heard to return to danger behind the train which preceded the 6.20.

### Conclusions

The speed of impact is estimated at about 20 m.p.h. Brigadier Langley is satisfied that the whole of the signalling and automatic train control equipment involved was in good order, while the Upney starting signal could not have been left "off" behind the 6.20 train owing to the sequential locking. It is highly improbable that the arm stuck, as it was found working freely after the accident. The possibility cannot be overlooked, however, that an accidental block clearance may have been transmitted during the closing of Becontree box. It was necessary to weigh the evidence very carefully and consider the significance of certain actions performed by the Upney signalman, such as his holding the 6.35 train for more than a minute at the home signal and then allowing it forward to the starting. Certain things he did suggested panic, or the realisation of a grievous mistake. He agreed that he lost his head on observing the track was clear, but was adamant that the block instrument never changed from "train on line" and that he never took off the starting signal.

A wrong "line clear" pre-supposes collaboration and untruthfulness on the part of all three signalmen. This seems hardly likely as, until the demonstration which Brigadier Langley himself gave of it, they were apparently unaware that such a thing could be done. They gave their evidence clearly, although with minor inconsistencies, and, it is believed, honestly.

It is doubted whether the driver's knowledge of the signals was sufficient to ensure he would not miss one in such conditions; he had never before been in charge of a train on this section in fog. The fireman's remark, quoted above, would have been appropriate if applied to the Becontree distant signal—the first clear distant met on the journey—but not in connection with a stop signal. His explanation was not convincing and the remark suggested that his comment referred to that signal.

After full consideration of all the evidence Brigadier Langley concluded that the 6.35 train passed the Upney starting signal at danger. There are no nearby landmarks by which to locate it in fog and its light, 21 ft. above rail, would have been difficult to see. Probably the train did not accelerate until the clear A.T.C. indication at the Becontree distant led the enginemen—believing that box to be manned—to assume the Upney starting signal had been "off." Speed thereafter was not excessive, considering the other clear A.T.C. indications received. The signalman at Dagenham acted for the best, on learning there was a second train in section. The Upney signalman infringed no rule in sending the train forward to the starting signal, but he ought to have sent the "running away" signal immediately instead of at first telephoning.

Had Becontree box remained open the accident might not have occurred, but its closing was permitted by the rules and no responsibility rests with the signalman; he carried out the procedure correctly but, in his anxiety to close quickly, failed to complete his train register.

### Remarks and Recommendations

A train stop would have been effective in this case but is not recommended because the advantages would not justify the cost and complication, for the reasons given by Brigadier Langley in his report on the St. Johns accident (see our issue of September 19, 1958, page 372).

The signalman at Upney was under no obligation to hold the train at his home signal, but it is for consideration whether the rules applying during fog or falling snow should not be revised to minimise the chance of similar accidents. The Rule Book contains many special instructions, framed to meet the difficulties that arise in bad visibility, when a signalman is required to use detonator placers to reinforce the signals. Many intermediate block semaphores have co-acting detonators, but there are no special aids at an ordinary starting signal. A colour-light signal could scarcely have been missed at close range, while the explosion of detonators would have given the driver an unmistakable warning. It is therefore recommended to extend Rule 39 (b) to prohibit sending forward to a stop signal in fog, etc., unless it is a colour-light or a semaphore fitted with detonators, with explosion indicated in the signalbox.

Although satisfied that an irregular "line clear" block indication was not produced on this occasion Brigadier Langley recommends adopting the restriction already in force in some Regions and pro-

hibiting the closing of any box when a train is in section or has been accepted, exceptional requirements being covered by special instructions.

It is doubtful whether a brighter tail light would have enabled the driver to take effective action, but trials with improved types are shortly to be carried out. Electrification will result in the steel framed wooden bodied rolling stock being replaced by all steel coaches, but even in collisions at comparatively low speed some damage is inevitable. There are normally guards' compartments at front and rear, where usually it is greatest. Casualties in this case were reduced because only the guard was in the rear compartment of the leading train; he was seriously injured. Correspondents suggested specially designed collision coaches for the ends of trains, but difficulties of marshalling, etc., make this impracticable. It is better to use resources on safeguards for preventing accidents than to dissipate them on devices which may contribute relatively less to the real safety of the travelling public.

# "Handsome Dividend" from Investment in Modernisation

*Sir Brian Robertson's faith in superior service to be afforded by technical improvements*

Sir Brian Robertson, Chairman of the British Transport Commission, stated at the triennial dinner of the Great Yarmouth Chamber of Commerce at Yarmouth on December 5 that he was "quite certain, and so are my colleagues that the investment that the nation is making in British Railways will in the end pay a handsome dividend." He stressed that he was certain of this despite present difficulties. "It is my job," he added "to see that this statement is translated into fact, and with my colleagues we intend to see that we do succeed."

### Will the Railways Pay?

Discussing the question "Can British Railways be made to pay?" Sir Brian Robertson stated that this was a two-sided question. First, would it pay the country to have good railways? Second, would the receipts of British Railways ever cover their costs?

Whether it would pay the country to have good railways or would it be possible to exist better without them, was a question which his audience could answer as well as he himself. He had quite recently had a fresh, strong indication from the Federation of British Industries that the Federation considered an efficient railway system to be an essential to the economic prosperity of the country. He felt little doubt that the Chamber of Commerce thought likewise. If they did so, he asked for their support in what the B.T.C. and the railways were seeking to do.

As to the question whether the railways ever would pay in themselves, that was partly a technical question. On the technical side they would have to take his word for it, and not his alone, because the Commission was united on this subject, and "the Commission consists of 14 men besides myself, men of eminence in a variety of fields, several of them in commerce, others in industry." Technically the advantages of modern equipment and methods were such as to leave no room for doubt that the railways could be made to pay if they concentrated on the jobs for which they were best suited.

Despite the railway's present difficulties which had been well publicised, Sir Brian Robertson was quite certain, and were his colleagues, that the investment that the nation was making in British Railways would in the end pay "a handsome dividend."

### Commercial Activity

It was partly a commercial question, he continued. Would the railways be alert enough commercially to exploit their technical advantages? He hoped that in the Eastern Region especially, where reorganisation on a decentralised basis was first introduced, traders were at least beginning to realise that the railways were awake commercially.

It was in part a question of the attitude of the public, including commerce and industry, towards the railways. There was still a lot of prejudice against the railways because they were nationalised. British Railways were not perfect, not as good as they should be and not as good as they would be provided that they were given the chance. They should be judged on their merits, and not on the basis of political beliefs.

### Uninformed Criticism

Fare increases aroused criticism although the fares had not gone up nearly as much as the goods which the critics themselves sold. He could say much more to the same effect, but they might think that he was "squealing," which he was not. If the railways were to pay, the attitude of the public and of industry and commerce towards them must be fair and not biased.

### Faith in the Future

"Because we are satisfied about the technical and commercial potentialities of the railways" Sir Brian Robertson stated "and because we have faith in the ultimate fairness of our fellow countrymen, we reply to the question 'Can the railways be made to pay' by 'Yes.' In saying this I do not forget that success depends upon the loyalty of the men and women who work on the railways. As modernisation progresses there are fewer of them, but they must be a confident and happy body."

### Railways Must Pay Their Way

Earlier in his speech, he pointed out that the policy to which the Commission and British Railways required to work by the Act of Parliament was that the railways must be made to pay. The Government was prepared to provide capital for railway modernisation and to lend money to cover deficits incurred until the modernisation paid off. But it was not willing to do this indefinitely and it required the railways to win their own living in competition with other forms of transport. They did not object to doing this. All they asked was the tools for the job and freedom to do it.

### Possible Reduction in Railway Facilities

"We have to work to the rules of the game" he stated "as set by the Government of this country. They are not rules which make things particularly easy for the railways, but they are not impossible rules and we must accept them. They mean, as the Commission has always realised, that the service given by the railways will have to be much less extensive than that to which people have long been accustomed. There will be far less room for cross-subsidisation of poor paying services by more profitable ones. There will be far less chance of the railways solving the problem of rural transport, which in any case is a job for much smaller carrying units, such as the buses. There can be no justifiable demand that the railways must always provide every possible facility to carry the peak traffics of business and holiday travel, though within reason we try to do so.

### Fully Competitive Service

"On the other hand within their own field (and I underline those words) the railways can be brought by modernisation to give a service to the travelling public and to commerce and industry vastly superior to that which they have given in the past and fully competitive with anything which can be offered by other forms of transport, public or private."

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EASTERN REGION CHRISTMAS TRAVEL ARRANGEMENTS.—During the Christmas and New Year Holiday period the Eastern Region of British Railways is to run 443 additional main line trains, 54 more than last year. Many of these extra trains will strengthen services between London and Scotland, the West Riding of Yorkshire, Newcastle, and principal towns in East Anglia. Seat and sleeper reservation facilities are being provided on several of the additional long-distance trains; demands for reservations have been very heavy and in some cases trains are already fully booked. On Christmas Day and Boxing Day a modified Sunday service will operate, while on December 27, the normal service will be run with cancellations in so far as residential and business services are concerned.

PRAISE FOR BRITISH RAILWAYS FROM KING AND QUEEN OF SWEDEN.—Sir Brian Robertson, Chairman of the British Transport Commission, has received the following message from Mr. E. J. G. Upmark, General Manager of the Swedish State Railways: "On behalf of their Majesties the King and Queen of Sweden, who have now returned from their journeys abroad, I have the great honour of conveying to you the personal gratitude of their Majesties for all attention and hospitality shown throughout their journey. Their Majesties have expressed their complete satisfaction with all arrangements made by the British Railways." The King and Queen arrived at Victoria Station, Southern Region, on November 1, by the "Golden Arrow," and left on November 17, by the Folkestone-Calais boat train. During their private visit they travelled from Waterloo to Winchester on November 7, returning three days later.

# Reorganisation of Transport Services in M.G.N. Area

*New plans for freight traffic: improved bus services*

The Eastern Region of British Railways has announced plans for revised passenger and freight services consequent on closure of the Midland & Great Northern Line, which is now fixed for midnight on February 28.

### Goods Services

The M.G.N. area will be well served by extending rail cartage facilities radiating from established railhead depots. Spur lines, linking up with the Great Eastern lines, are being retained. Freight train services will be withdrawn on the following sections: South Witham (excl.) to Bourne (excl.); Wisbech North (excl.) to Sutton Bridge (excl.); Sutton Bridge (excl.) to South Lynn (excl.); Gayton Road (excl.) to Melton Constable (excl.); and Melton Constable (excl.) to Yarmouth (Beach).

The goods train service between Bourne and Billingborough will be retained.

### New Bus Services

The Eastern Counties Omnibus Co. Ltd., of which all shares are held by the British Transport Commission, proposes to operate more than 500,000 additional miles a year. Other omnibus undertakings in the area affected will also improve their services. These arrangements are being made after recent confirmation by the Central Transport Consultative Committee, of the recommendations of the East Anglian and East Midland Transport Users' Consultative Committees.

Application has been made to the Traffic Commissioners for licences for new and improved omnibus services on the following routes:—

*Eastern Counties Omnibus Co. Ltd.:* New services Kings Lynn—Melton Constable—Yarmouth and Norwich—Lenwade—Hindolvestone—Melton Constable: improved services Kings Lynn—Peterborough—Spalding—Tongue End, and Fakenham—Norwich.

*Lincolnshire Road Car Co. Ltd.:* Improved services Spalding—Melton Mowbray and Spalding—Kings Lynn.

*Private operators:* Improved services: (R. R. Allen) Guestwick—Norwich and (A. Brown) Wisbech—Murrow.

### Passenger Train Services

Passenger train services will be withdrawn from the following sections of line: (1) Saxby to Sutton Bridge, (2) Peterborough to Sutton Bridge, (3) Sutton Bridge to Melton Constable, (4) Melton Constable to Yarmouth Beach, and (5) Melton Constable to Norwich City.

To improve the facilities for seasonal travellers, new signalling will be installed approaching Yarmouth Vauxhall and at the terminal, to enable summer holiday trains to be dealt with in greater numbers. Plans also include lengthening of platforms, new carriage sidings and improved amenities. The provision of a covered queueing area and improved toilet facilities are also being considered. It is the aim to complete much of this work by Whitsun, 1959.

## Presentation of Decoration to Mr. L. H. K. Neil

The Italian Ambassador, Count Vittorio Zoppi, on November 28, at the Italian Trade Centre, Old Burlington Street, W.1, presented to Mr. L. H. K. Neil, former Continental Traffic & Shipping Manager of the Eastern Region of British Railways, the insignia of Cavaliere de l' Ordine al Merito de.la Republica Italiana (Knight of the Order of Merit of the Republic of Italy). Among those present were members of the staff of the Italian Embassy, including the Commercial Counsellor, Signor Clemente Boniver; Mr. H. C. Johnson, General Manager of the Eastern Region; Mr. S. A. Claydon, Continental Traffic & Shipping Manager of the Eastern Region; Mr. R. Weber, Managing Director of the Anglo-Belgian Ferry Company; and Avvocato Mario Gioncada, Italian representative of the same company.

### Harwich-Zeebrugge Ferry

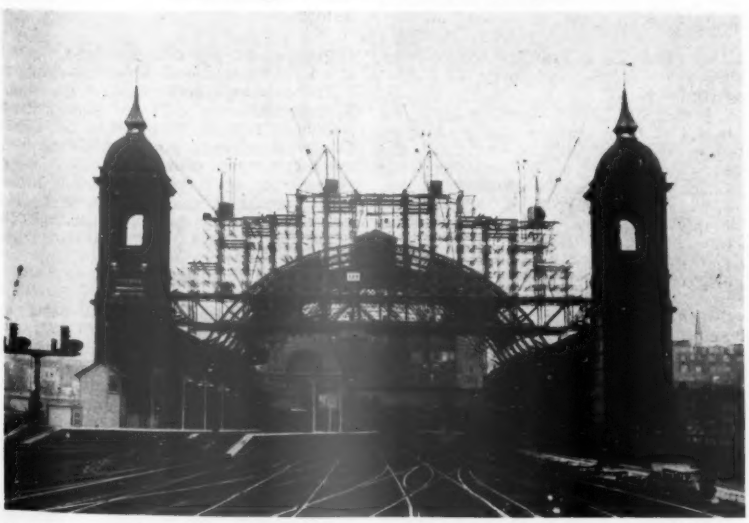
The Ambassador spoke of Mr. Neil's close association with the Harwich-Zeebrugge train ferry service since its inception and of his long and untiring work in the development of the fruit and vegetable trade between Italy and Great Britain, which now represented about 10 per cent of the total United Kingdom imports of these commodities.

He referred also to the speed with which the service was reinstated, scarcely a year after the conclusion of the last war, to Mr. Neil's activities in this connection, and the initiative shown in pressing ahead with the construction of new ferryboats immediately afterwards. In offering Mr. Neil his congratulations, Count Zoppi expressed the hope that the service would continue to expand to the mutual benefit of trade between Great Britain, Italy, and other European countries.

Mr. Neil, expressing his thanks for the honour bestowed on him, referred to the co-operation of, and the contribution made by, the Italian State Railways, not only in the working of the traffic but in the construction of some 1,500 ferry wagons to the British railway gauge.

He recalled his long and pleasant association with the senior officers of the Italian State Railways and with Avvocato Mario Gioncada, with whom he worked in close collaboration for so many years.

## Rebuilding at Cannon Street Station



*Scaffolding at Cannon Street Station, British Railways, Southern Region, where the roof is being removed: a gantry for derricks has been built between the main walls*

## Parliamentary Notes

### Railway Noises a Nuisance

When noise on railways had been condemned as a reason against their being established was recalled in the House of Commons on December 5 by Mr. C. Ian Orr-Ewing, Under-Secretary of State for Air, replying to a debate on the noise of aircraft in airfields.

He said he had been looking up some of the debates which took place at the beginning of last century, when the railways started to operate. In the debate on the Third Reading of the Liverpool & Manchester Railway Bill in 1826, the Member for Ilchester, Sir Isaac Coffin, asked whether "the House was aware of the smoke and the noise and the hiss and whirl which locomotive engines passing the rate of 10 or 12 miles an hour would occasion?" He had added that it would be "the greatest nuisance, the most complete disturbance of quiet and comfort in all parts of the United Kingdom that the ingenuity of man could invent."

Some years later, Mr. Orr-Ewing added, the Member for Cheltenham, Mr. Berkeley, speaking at a meeting to protest against the proposed London & Bristol Railway, said that nothing was more distasteful to him than "to hear the echo of our hills reverberating with the noise of the hissing railroad engines running through the heart of our hunting country, and wished the concocters of every such scheme, with their solicitors and engineers, were at rest in paradise."

Mr. Orr-Ewing said he quoted only to

show that when civilisation made a marked advance in the means of transport, it was bound to arouse antagonism, difficulty, and disturbance.

Mr. G. de Frietas (Lincoln-Lab.): I only rise to the defence of my distinguished predecessor of over 100 years ago, who sat for the City of Lincoln. Colonel Sibthorpe used much more offensive words about railways than did these two gentlemen.

Mr. Orr-Ewing: Little did they realise that the industrial prosperity of the country would be founded on our railway system and, incidentally, the prosperity of many other countries, including South America.

### Rival Gangs on Railways

During a debate on control of immigration in the House of Commons on December 5, Mr. Charles Doughty (Surrey E.—Lab.) said that troubles over immigrants and unemployment arose many times, for example in the history of the construction of British railways. At the time of the building of the railways it was the custom for Irish and English labourers to form themselves into rival gangs. As the Irish were prepared to accept lower wages, this led to riots with the English gangs. Today people again were coming into this country who were content with a lower standard. and were prepared to work at low wages.

## Questions in Parliament

### London Travel Committee

Mr. E. Partridge (Battersea S.—C.) asked the Minister of Transport & Civil Aviation on November 26 what steps he now proposed to take to deal with the problem of travel congestion in London.

Mr. Harold Watkinson: The Crush Hour Committee has reported progress and has suggested that the problem of road traffic congestion should be considered at the same time as congestion on public transport. I have accepted this suggestion, and I have decided to reconstitute the Committee and widen its terms of reference accordingly, as I consider that we shall get quicker results by considering the problem as a whole. Mr. Alex Samuels has accepted my invitation to be Chairman of the new body, which will be called the London Travel Committee.

The terms of reference, which I am circulating in the Official Report, will enable the Committee to attack the whole problem of congestion on the roads and on public transport services in and out of Central London during the rush hours. I am also circulating in the Official Report a list of the members who have agreed to serve on the Committee. I have asked the Committee to deal urgently with as many of the complex issues in front of it as it can, and to report to me whenever it feels that Governmental action is necessary.

## Staff and Labour Matters

### Committee of Inquiry into Railway Pay

The independent committee of inquiry into railwaymen's pay held meetings on December 3 and 8. The terms of reference provide for inquiry into the rates of pay on British Railways and those paid for corresponding work elsewhere.

The inquiry is expected to last several months. The chairman of the committee is Mr. C. W. Guillebaud, Emeritus University Reader in Economics at Cambridge. The other two members are Mr. E. Bishop and Mr. H. A. Clegg.

## Contracts and Tenders

*Motor coaches for the Argentine State Railways*

An order for 210 motor coaches was recently placed by the Argentine State Railways with Fiat S.p.A., of Turin. Ninety are to be supplied from Turin within 14 months, while the balance is to be built in a works to be established by Fiat in the province of Córdoba, to the north-west of Buenos Aires. Fiat S.p.a. is to invest $1,500,000 in the new works. The production programme comprises also motor coaches for underground lines and small motor buses. The order for the 210 coaches is valued at $28,200,000.

The Turkish State Railways has placed an order with Viberti of Turin for 3,260 passenger coaches of various types with spart parts. The stock will be built at the company's Civitanova Marchë works, and delivery completed in 27 months. The order is valued at $50,000,000.

The British Transport Commission has placed an order with the North British Locomotive Co. Ltd., Springburn, Glasgow, for three 300-h.p. diesel-hydraulic locomotives of a similar design to those already in service on British Railways. They are for use in the London Midland Region.

U.S.S.R. Railways has ordered 250 passenger coaches from the Wilhelm Pieck Waggon & Machine Works, Gyor, Hungary, for delivery in 1959.

Taylor & Hubbard, Limited, Leicester, has received an order from the British Transport Commission for a new type of diesel-electric permanent way travelling crane, equipped with a telescopic jib designed for track work on lines electrified on the overhead system. The crane will be used in the London Midland Region.

London Transport has placed a contract with the Cleveland Bridge & Engineering Company, Limited, Darlington, for the reconstruction of the decks of bridges D.124 and D.124B, carrying the District Line over the East London Line at Whitechapel Station. The value of the contract is some £15,500 and the work should be completed in three months.

The British Transport Commission, South Wales Docks, has placed the following contracts:—

British Insulated Callender's Construction Co. Ltd.: supply and installation of overhead current collection line and equipment for No. 14 hoist and traverser, Kings Dock, Swansea

The Walsall Electrical Co. Ltd.: supply of ground plug boxes and plugs for "A" and "B" shed wharves, Kings Dock, and West Wharf, Prince of Wales Dock, Swansea.

British Railways, London Midland Region, has placed the following contracts:

Hydran Installations Limited: Installation of oil firing equipment to existing hand fired central heating boilers, Road Motor Depot, Kentish Town

Sir Lindsay Parkinson & Co. Ltd.: new bridge to carry Carnforth and Wennington line over the North-South Motorway, Lancaster by-pass, at Carnforth Brow for Ministry of Transport

Leonard Fairclough Limited: renewal of decking in Import Shed, Holyhead Harbour, and alterations to bridge No. 62a, Oxford Road, Manchester

Supervents Limited: installation of ventilating plant, Hunts Bank and Victoria Station offices, Manchester

G. Dew & Co. Ltd.: provision of new bridge to carry Liverpool and Manchester line over Stretford Eccles by-pass between Eccles and Paticroft for Lancashire County Council

Vic. Hallam Limited: supply and erection of superstructure, reconstruction of Bagworth and Ellistown Station

T. & E. Warrington (Hyde) Limited: staff amenities, wagon shop, Salford Hope Street

W. Eaves & Co. Ltd.: modernisation of lavatory facilities, excursion platform, Blackpool Central

John Booth & Sons (Bolton) Ltd.: lifting bridge No. 1 Crewe—Shrewsbury line, and 78A Crewe-Stafford line, and demolishing bridges 16a and 19 Crewe-Stockport line

Edward Wood & Sons: construction of new drawing stores, new lavatory block, and external work, Crewe Loco Works

John Paul & Co. Ltd: renewal of roof covering, Old Lorry Shed, North Wall, Dublin.

British Railways, North Eastern Region, has placed the following contracts:—

A Herbert, Limited: universal sheet metal shaper, Darlington Locomotive Works

W. Birch & Sons, Ltd.: lavatory accommodation for office staff (stage II), York Carriage & Wagon Works

Standard Telephone & Cables, Limited: automatic teleprinter exchange, York Headquarters Office

Leonard Fairclough, Limited: sand blanketing, Leeds Neville Hill Multi-Unit Diesel Depot

Kitchen & Wade, Limited: one radial drilling machine, Stanningley District Engineer's Shop.

The Special Register Information Service, Export Services Branch, Board of Trade, has received calls for tenders as follow:—

*From India:*

1 250-h.p. diesel locomotive.

The issuing authority is the India Supply Mission, 2536 Massachusetts Avenue, N.W., Washington 8, D.C. Tender documents can be obtained from the Director General India Stores Department, Government Building, Bromyard Avenue, Acton, London, W.3. The tender No. is SE-24. The closing date is January 6, 1959. The Board of Trade reference is ESB/24924/58.

*From Sudan:*

1 locomotive weighing and balancing table.

The issuing authority is the Controller of Stores, Sudan Railways. The tender No. is 1874. Tenders should be addressed to the office of Controller of Stores, Atbara, Sudan. The closing date is December 20, 1958. The Board of Trade reference is ESB/29614/58.

*From Iran:*

20 power operated points with all accessories.

The issuing authority is the State

Railways Administration. Tender documents may be obtained from the Section des Adjudications et des Contrats de l'Administration des Chemins de Fer de l'Etat, Tehran. A deposit of $20,0000 valid for at least three months is required. The closing date is January 20, 1958. The Board of Trade reference is ESB/29529/58.

*From Burma:*

130 smoke tubes for Cochran boiler, size 5 and 6 2½ in. OSD × 35 in. long

185 smoke tubes for Cochran boiler, size 7 and 8, 2½ in. OSD × 40½ in. long.

The issuing authority and address to which bids should be sent is the Union of Burma Purchase Board, St. John's Road, Rangoon. The tender No. is IIIB/25/P&M of 58-59. The closing date is December 22, 1958. The Board of Trade reference is ESB/29686/58.

Further details regarding the above tenders, together with photo-copies of tender documents, can be obtained from the Branch (Lacon House, Theobalds Road, W.C.1).

## Notes and News

**New Car Park at Brent Station, L.T.E.**—A park for eight motorcars was opened by London Transport in the forecourt of Brent Station, on the Northern Line, on December 8.

**J. Brockhouse & Co. Ltd. Results.**—The group net profit of J. Brockhouse & Co. Ltd. in the year ended September 30, 1958, were £365,105 (£391,058). The dividend is 8½ per cent (same). The net trading profit of home companies was £920,867 (£841,216), and of overseas companies £121,748 (£238,261).

**Christmas Trees in Scottish Stations.**—Christmas trees are again installed in the principal stations of British Railways, Scottish Region, in Aberdeen, Dundee, Edinburgh, and Glasgow, and the initial illumination of these displays has taken place at ceremonies at which the respective Lord Provosts officiated. These seasonable appeals on behalf of charitable and other deserving organisations will remain at the stations until the early days of the New Year.

**Closure of Stations in the North Eastern Region.**—British Railways, North Eastern Region, has announced that How Mill Station is to be closed from January 5, 1959. At the same time, the passenger facilities will be withdrawn from Low Row and the goods station converted to a public delivery siding. Both stations are on the Newcastle–Carlisle line. Approval for these measures has been given by the Transport Users' Consultative Committee for the North Western Area. Parcels traffic and small consignments of freight traffic, at both places, will continue to be dealt with by British Railways road motors operating from Brampton Junction Station. Parcels traffic by passenger train may be handed in or collected at Heads Nook Station. Freight traffic in full wagonloads, not requiring to be collected or delivered by British Railways cartage services, will continue to be dealt with at Low Row public delivery siding.

**World Bank Loan for South African Railways.**—The South African Railways & Harbours Administration has received a loan of $25,000,000 from the World Bank. The money will be used for general betterment purposes. The loan is for a period of 10 years at 5¼ per cent interest.

**Heavy Christmas Passenger Traffic to Ireland Expected.**—British Railways London Midland Region announces indications of heavy traffic to Ireland via Holyhead and Dun Laoghaire during the period December 19-24. Earlier this week sailing tickets for the ordinary and additional sailings on these dates were still available, but were being rapidly taken up.

**Closing of G.N. Line Wayside Stations.**—British Railways, Eastern Region, has announced that from January 5, 1959, the passenger train services will be withdrawn from Three Counties and from Arlesey & Henlow Stations, on the East Coast main line, north of Hitchin. Passengers will be catered for at Hitchin and Letchworth Stations, and by bus services operating in the area. Collection and delivery services for parcels will continue to be available by road vehicles based on Biggleswade.

**Hale & Hale (Tipton) Limited.**—The consolidated net profit of Hale & Hale (Tipton) Limited for the year ended August 4, 1958, was £18,884 (£26,701). A final dividend of 10 per cent is recommended, which with the interim, makes a total of 15 per cent for the year (25 per cent). Production in the second quarter of the year was nearly 6 per cent below that of the same period a year earlier, but in the third quarter was 12 per cent lower than in the previous year. This decline is due to the slow-down of industrial activity aggravated by consumption from stock and not to the use of a substitute for iron castings.

**Scottish Region "Assured Arrival" Goods Services.**—The "Assured Arrival" services operated by British Railways, Scottish Region, for goods train traffic, by which traders are assured that traffic will be available to their customers on the day after despatch, since their inception on April 8 have catered for over 140,000 consignments without failure to deliver on time. These overnight services, which apply to either small consignments or full wagonloads, are now available between Glasgow or Edinburgh and Dundee, Aberdeen, Inverness, or Elgin.

**"The Devil Was Sick."**—Mr. Kenneth Horne's comedy "The Devil Was Sick" was admirably presented by the Southern Railway Dramatic Society at the Scala Theatre, London, W.1, on December 3. The cast was well chosen and gave an excellent performance. The principal parts were taken by Mr. Joe Putnam and Miss Peggy Pearce as the Reverend Sexton-Hifflish and his wife. Mr. Brian Davies coped successfully with the difficult role of the elder Sexton-Hifflish and Miss Phyllis Brain gave her usual finished interpretation as Matilda "Hope." Mr. Evan Roberts was well fitted to the role of Dr. Frederick Silvaine and Miss June Ernest and Mr. Ronald Varney capably played the parts of the young couple. A newcomer to the society, Miss Mildred Dutton, showed to advantage as Violet.

**Special Holiday Services between L.M. Region and the South West.**—Special summer holiday expresses to Devon and Cornwall at reduced period fares are being arranged by British Railways, London Midland Region, next summer on Saturday nights. It is hoped this will relieve the pressure on the Friday night trains and provide all passengers with more comfortable travel. Light refreshments will be served on the special expresses and the eight- or 15-day cheap tickets will only be issued up to the seating capacity of the trains. The special trains will run from Manchester Victoria, Stockport, Crewe, Nottingham, Derby, Leicester, Loughborough, Birkenhead, Liverpool, Runcorn, Chester, Coventry, and Birmingham. There will also be bookings from several other stations in Lancashire and Derbyshire, and from Stoke-on-Trent.

**Advice on Timber and Plywood for Packaging.**—A technical committee which can assist industry in its packaging problems has been formed by the National

## New Office Accommodation for Thos. Cook & Son Ltd.

*Reception area in new section for business travel at Thos. Cook & Son Ltd. head office in Berkeley Street, W.1 (see last week's issue)*

Federation of Box & Packing Case Manufacturers. Both the Printing, Packaging, and Allied Trades Research Association and the Timber Development Association are represented on this committee. It has been set up with the object of providing advice and information on all technical matters relating to the design and specification of timber and plywood cases and pallets.

**Illegal Road Haulage in Northern Ireland.**—Lord Glentoran, Northern Ireland Minister of Commerce, stated in reply to a question in the Northern Ireland House of Commons last week that enforcement of the existing law as to illegal haulage was a matter primarily for the Ulster Transport Authority, the police, and the courts. He had been asked what steps he proposed to take to safeguard the traffic, which should be handled by the U.T.A.

**"Christmas Roundabout" Trips by L.T.E. Buses.**—London Transport is running special 1s. 6d. "Christmas Roundabout" bus trips through the decorated streets of the West End of London. The trips are made every night, including Sundays, up to and including Christmas Eve. The buses run every few minutes from 7.30 p.m. to 10.30 p.m., starting from Trafalgar Square (Northumberland Avenue) and passing through Piccadilly, Regent Street, and Oxford Street. The trips will last half-an-hour. A similar service attracted 34,000 passengers in 1957.

**Rhodesia Railways in Exhibit at Commonwealth Institute.**—Reference was made in our October 10 issue to the exhibit in the re-arranged Court of the Federation of Rhodesia & Nyasaland in the Commonwealth Institute, South Kensington, S.W.7, illustrating the importance of transport and communications in Rhodesia. The accompanying illustration shows the main features of the exhibit, which depicts the line of Rhodesia Railways running north from Wankie Colliery, in Southern Rhodesia, over the model representing the Victoria Falls bridge, spanning the Zambesi, to the Copper Belt in Northern Rhodesia. The display includes models presented jointly by Beyer Peacock & Co. Ltd. and the Metropolitan-Cammell Carriage & Wagon Co. Ltd. "20th" class Beyer-Garratt locomotives are seen hauling trains of 40-ton capacity all-steel bogie high-sided wagons built by Metropolitan-Cammell.

**Engine Driver Charged with Manslaughter.**—The trial began at the Sussex Assizes at Lewes on Monday of Driver A. Wembridge, the driver of the locomotive of the southbound car-sleeper train which collided with an electric train in Eastbourne Station on August 25. He was charged with the manslaughter of Driver C. D. Brock, motorman of the electric train. He pleaded Not Guilty.

**First Class Travel on Second Class Ticket.**—Commander G. F. Hawkes, a naval officer at the Ministry of Supply, claimed the right, before the Transport Tribunal in London last week, to travel first class on British Railways with a second class ticket when no second class seats were available. He submitted his own set of rules which he called the "Hawkes Rules" to guide ticket inspectors. Under these rules, which he had submitted to the British Transport Commission last January, a second class ticket holder would be able to occupy a first class seat if: all second class seats were occupied; the first class seat was not required by a first class ticket holder; and the second class passenger did not give the first class passenger reasonable cause for annoyance. Commander Hawkes contended that the existing regulations caused unnecessary discomfort and hardship, and were obscure and arbitrary in their application. After he had given evidence Mr. Patrick Browne, for the Commission, said that he would submit that the rules were hopelessly impracticable and would cause a great loss of revenue. Commander Hawkes said he had a method of refereeing his rules which he was not willing to disclose "for commercial reasons." Mr. Patrick Browne, summing up for the B.T.C., said that in selling a second-class ticket the commission was not contracting to provide a second class seat in any particular train. The tribunal ended its sitting last Monday. Mr. Hubert Hull, the Chairman, said it would consider its decision and circulate it.

**De Havilland to Manufacture Sulzer Superchargers.**—Sulzer Bros. (London) Ltd. has concluded an agreement with the De Havilland Engine Co. Ltd., of Leavesden, Herts., for manufacture by the De Havilland Company at its Leavesden works of the Sulzer supercharger for diesel railway traction purposes. Superchargers will be manufactured to the order of Sulzer Bros. (London) Ltd. The present programme includes superchargers for British Railways.

**Public Inspection of Programme Machines at Kennington Station, L.T.E.**—Posters at Kennington Station on the Northern Line of London Transport, invite passengers to inspect the programme machines there, similar to those installed at Camden Town and Euston, and described in previous issues of this journal. The machines at Kennington are placed behind a plate glass window, and a notice explains how they work.

**Surplus of Steel Scrap.**—It was announced last week that most kinds of steel scrap might be exported freely until February 4, 1959. There is reported to be a substantial surplus of scrap in Britain. Steelmakers have a little over 1,000,000 tons of scrap on their hands, which is not thought to be excessive in relation to current steel output. Stocks held by scrap merchants at the end of September amounted to about 750,000 tons, some 250,000 tons more than a year earlier. Because merchants have not been buying, there is a substantial tonnage of scrap uncollected in engineering shops and elsewhere. Failure to buy and to move scrap

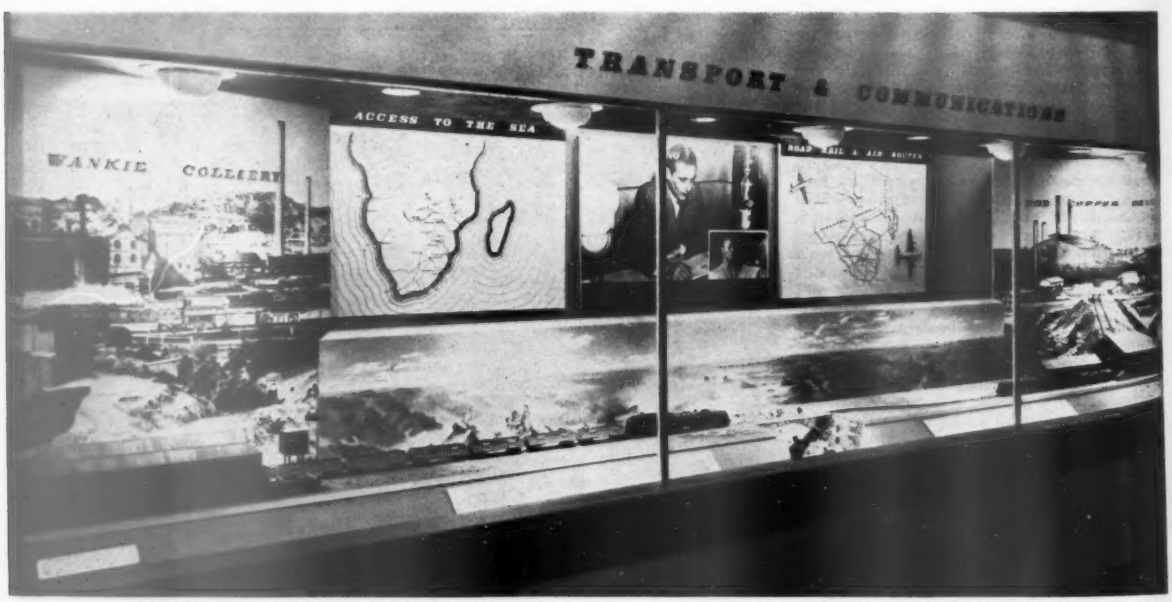



*Photo courtesy* [*Director, Commonwealth Institute*

*Rhodesia Railways featured in exhibit in the Court of the Federation of Rhodesia & Nyasaland at the Commonwealth Institute*

during the past few months has had a marked adverse effect on British Railways freight traffics.

**Augmented L.T.E. Services for Christmas Shoppers.**—Full-length trains are being run on the four London Transport tube lines between rush hours to help Christmas shoppers. Normally short trains run at these times. The long trains give a 2½-min. service across Central London to the shopping areas on the Bakerloo, Central, Northern, and Piccadilly Lines. They will run up to Christmas Eve. Extra buses for Christmas shoppers are also being run by L.T.E. in the West End and main suburban areas.

**Machine Tool Orders.**—The value of new orders for machine tools from British makers by manufacturers in the United Kingdom declined in September to slightly over £3 million and that of orders from abroad were cut to little more than £1 million. Reports from manufacturers suggest that there was a small recovery in October in orders both from the home market and abroad. In November two substantial orders were placed for machine tools for China to the value of £1,100,000.

**British Transport Advertising Displays.**—The central theme of six new window displays recently installed at the headquarters of the British Transport Commission commercial advertising service at Leicester Square Station is "Sell to London through British Transport Advertising Sites." Emphasis is placed on the wide range of commodities and services advertised on British Transport Advertising sites in the London area. This is done by coloured photographs showing typical advertisements on London buses, the Underground, delivery vans and British Railways' stations.

**Peter Brotherhood Limited Proposed Capitalisation of Reserves.**—Mr. A. Marcus Neal, Chairman, Peter Brotherhood Limited, has announced that a one-for-two capitalisation issue will be made early next year. He has stated that there is every indication that turnover and profits for 1958-59 will be satisfactory and comparable with the averages for the past few years. Net profit for the year ended March, 1958, was £240,508, and a final dividend of 18 per cent has been recommended making 24 per cent for the year.

**B.I.C.C. Limited and Telegraph Construction & Maintenance Co. Ltd. Merger.**—British Insulated Callender's Cables Limited is to make an offer to acquire the entire share capital of the Telegraph Construction & Maintenance Co. Ltd. on an exchange of shares basis. The latter will continue as a seperate entity within the B.I.C.C. group. There has been a growing co-operation between British Insulated Callender's Cables Limited and the Telegraph Construction & Maintenance Co. Ltd. over the last few years, particularly in certain countries overseas and on specific technical problems.

**Withdrawal of Passenger Facilities from Copmanthorpe Station.**—British Railways, North Eastern Region, has announced that the passenger train facilities will be withdrawn from Copmanthorpe Station, on the York-Leeds line, from January 5, 1959. Approval for this measure has been given by the Transport Users' Consultative Committee for the Yorkshire area. Alternative passenger facilities are provided by the West Yorkshire Road Car Company. Received parcels traffic by passenger train will be conveyed by British Railways' road motors operating from York. Passenger train parcels traffic for despatch may be handed in at Copmanthorpe Goods Depot. There will be no change in the facilities for freight traffice.

*British Transport Advertising window display at Leicester Square Station, showing variety of sites available in London*

**Esso Chemicals Plant Opened.**—Lord Mills, Minister of Power, inaugurated the new £10 million petroleum chemicals plant at the Esso Refinery, Fawley, on December 5. The plant will produce two principal chemical feed stocks, butadiene (42,000 tons a year) and ethylene (40,000 tons a year). These products are being piped to adjacent factories. The International Synthetic Rubber Company is now manufacturing type GR-S synthetic rubber from butadiene whilst Monsanto Chemicals Limited and Union Carbide Limited will produce polyethylene and ethylene oxide derivatives respectively when their new plants are completed next year.

**Branch-Line Traffic Doubled by Railbuses.**—The diesel railbuses which replaced steam trains on the Bedford-Northampton and Bedford-Hitchin branches of British Railways, London Midland Region, September 15, are reported to have attracted much traffic. During October nearly 7,000 passengers used these services, more than twice the number carried in the corresponding month of 1957.

## Main-Line Diesel Operation in Western Region

*Photo]* *[M. W. Earley*

*North British 2,000-h.p. diesel-hydraulic locomotive on the "Cornish Riviera Express" leaving Royal Albert Bridge at Saltash*

## Forthcoming Meetings

December 12 (*Fri.*)—Institute of Traffic Administration, Kent & South Eastern Centre, at the Royal Star Hotel, Maidstone, at 7.30 p.m. Paper on "Air and rail transport in Europe," by Lt.-Colonel A. C. Ping.

December 12 (*Fri.*).—The Stephenson Locomotive Society, North Eastern Area, at the Demonstration Theatre, Northern Gas Board Showroom, 30, Grainger Street, Newcastle-upon-Tyne, 1, at 7 p.m. Talk on "Early days of the L.M. & S.R. in Scotland," by Mr. David L. Smith.

December 12 (*Fri.*).—Flectric Railway Society, at the College of Technology, Suffolk Street, Birmingham, at 7.15 p.m. Paper on "Australian electric railways," by Mr. Noel F. Reed.

December 12 (*Fri.*).—Railway Correspondence & Travel Society, London Branch, at the Railway Clearing House, Eversholt Street, London, N.W.1, at 7.15 p.m. Paper on "Improving railway timetables," by Mr. J. H. Price.

December 13 (*Sat.*).—Stephenson Locomotive Society, North Western Area, at the Geographical Society, St. Mary's Parsonage, Deansgate, Manchester, at 6.15 p.m. Paper on "Some reminiscences of the L.M. & S.R. in Scotland," by Mr. David L. Smith.

December 15 (*Mon.*).—Permanent Way Institution, London Section, at the Headquarters of the British Transport Commission, 222, Marylebone Road, London, N.W.1, at 6.30 p.m. Paper on "Track recording coaches," by Mr. G. D. S. Alley.

December 15 (*Mon.*).—Institute of Transport, at 80, Portland Place, London, W.1, at 5.45 p.m. Annual general meeting.

December 15 (*Mon.*).—Institute of Transport, Sussex Group, at the Arlington Hotel, Brighton, at 6.30 p.m. Paper on "Trade unions and the railway modernisation plan," by Mr. F. E. Bell.

December 16 (*Tue.*).—Stephenson Locomotive Society, London and Southern Area, at Caxton Hall, Westminster, S.W.1, at 6.45 p.m. Cine film show "Railway cine film shots throughout the British Isles, 1957," by Mr. W. A. Camwell.

December 16 (*Tue.*).—Railway Correspondence & Travel Society, West Midlands Branch, at 64, Holyhead Road, Coventry, at 7.30 p.m. Paper on "The railways of Scandinavia," illustrated, by Mr. J. Harrison.

December 16 (*Tue.*).—Institute of Transport, West Middlesex Group, at the Control Tower Building, London Airport, at 5.45 for 6.15 p.m. Paper on "Underground railways in North West Europe," by Mr. Y. G. Maxwell.

December 17 (*Wed.*).—Railway Students' Association, at the London School of Economics & Political Science, Houghton Street, Aldwych, W.C.2, at 6.15 p.m. Paper on "Computers and railways," by Mr. G. H. Hinds, Electronics Advisory Officer, British Transport Commission.

December 18 (*Thu.*)—Institution of Locomotive Engineers, at the Dorchester Hotel, Park Lane, London, W.1. Dinner and dance.

December 18 (*Thu.*).—Institution of Railway Signal Engineers, London Section, at the Institution of Electrical Engineers, Savoy Place, London, W.C.2, at 6 p.m. Paper on "Geographical circuit technique," by Mr. H. A. Codd.

December 18 (*Thu.*).—Diesel Engineers & Users Association, at the Memorial Building, The Institute of Marine Engineers, 76, Mark Lane, E.C.3, at 2.30 p.m. "Report on heavy oil engines working costs and performance, 1957-58," will be presented. "Operating problems," and the paper, "Modern trends in high-speed diesel engines," by Mr. L. D. E. Brodie, will be discussed.

December 19 (*Fri.*).—Railway Correspondence & Travel Society, Lancs & North West Branch, at the D.O.S. Conference Room, Preston Station, at 7 p.m. Paper, illustrated by colour slides, on "Impressions of Swiss Railways," by Mr. Cyril Smith.

December 20 (*Sat.*).—Railway Correspondence & Travel Society, South of England Branch, at the Junction Hotel, Eastleigh, Hants, at 6 p.m. Paper on "The London & Southampton Railway," by Mr. K. G. Carr.

December 22 (*Mon.*).—Railway Correspondence & Travel Society, Northampton Branch, at the Liberal Club, Castilian Street, Northampton, at 7.30 p.m. Paper on "More railway travel in colour," illustrated, by Mr. J. B. C. McCann.

December 29 (*Mon.*) and December 30 (*Tue.*).—The Institution of Civil Engineers, Great George Street, Westminster, S.W.1, at 3 p.m. Christmas lectures for boys and girls.

## Railway Stock Market

Holiday influences are already in evidence in stock markets and the volume of business is beginning to slacken. In most sections the result has been for moderate buying or selling to influence prices fairly sharply. An earlier reaction was followed by a small rally, leaving a fair number of industrial shares slightly lower as compared with a week ago.

Business in foreign rails was extremely limited, Antofagasta ordinary eased further to 14, while the preference stock was also fractionally lower at 29¼. United of Havana second income stock was 6¼ and San Paulo Railway 3s. units 2s. Costa Rica ordinary stock remained at 14½, Chilean Northern first debentures at 49½, while Guayaquil & Quito assented bonds were quoted at 78½ and Paraguay Central prior debentures at 11. Brazil Railway bonds were 6¼.

Canadian Pacifics have moved closely with Wall Street and at $53 were lower on balance, while White Pass shares changed hands around $15. Canadian Pacific preference stock was 56 and the 4 per cent debentures 63¼xd. Mexican Central "A" bearer debentures held steady at 74.

Nyasaland Railways shares were again quoted at 12s. 9. with the 3½ per cent debentures 62½. West of India Portuguese ordinary stock kept at 77 with the 5 per cent debentures 68. Emu Bay 4½ per cent debentures were quoted at 37 and Midland of Western Australia stock at 5½.

With greater emphasis in the market on the future benefits which should accrue from work on railway modernisation, shares of locomotive builders and engineers have been rather more active, the good yields attracting attention. It is realised that on present indications there is little scope for higher dividends, but looking ahead to 1960, some companies should be able to report improved profits and pay better dividends as well. Beyer Peacock 5s. shares have strengthened to 8s. 7½d. but Charles Roberts 5s. shares eased to 10s. Westinghouse Brake were again rather more active because of higher dividend hopes, but did not quite keep best prices, easing later to 42s., which, however, is within 1s. 6d. of the best level reached this year.

In other directions, North British Locomotive have been more active around 15s. 10½d. and Birmingham Wagon changed hands around 20s. 1½d. Elsewhere, Wagon Repairs 5s. shares were 10s. 4½d. and Gloucester Wagon 10s. shares 18s. 6d. Kitchen & Wade 4s. shares were 13s. 6d. and Asquith Tool 5s. shares 23s. 4½d. after news of the take-over offer for Kitchen & Wade shares made by Asquith. The board of Kitchen & Wade have rejected the offer and have advised shareholders to retain their shares. The Chairman, Mr. A. Kitchen, has stated it will be possible to maintain a dividend of at least 20⅝ per cent on the capital as increased by the scrip issue last July.

Associated Electrical were 57s. 3d. and English Electric 58s. 3d. while General Electric changed hands around 35s. 6d. and Crompton Parkinson 5s. shares around 11s. 7½d. Dowty Group 10s. shares were 42s. 6d., their best so far this year, Pressed Steel 5s. shares 21s. 3d. and B.S.A. 35s. 3d. British Timken have advanced strongly to 65s. on the scrip issue news, Stone-Platt shares held firm at 43s. 3d. and T. W. Ward have been steady at 82s. 6d. on the expectation that scrap metal exports will help business. Metal Industries were 40s. and Ransomes & Marles 5s. shares 16s. 6d. Ruston & Hornsby have strengthened to 23s. B.I. Cables were 49s. 3d. with Telcon shares 35s. 6d. following the take-over terms proposed by B.I. Cables for the latter company.

## OFFICIAL NOTICES

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